

## Environmental Checklist Form

UNIVERSITY OF CALIFORNIA

November 6, 2006

CAMPUS: Lawrence Berkeley National Laboratory

PROJECT NO. \_\_\_\_\_

### I. PROJECT INFORMATION:

1. Project title:  
Building 10 Demolition and Construction and Operation of the User Support Building at Lawrence Berkeley Natural Laboratory
2. Lead agency name and address:  
University of California  
Ernest Orlando Lawrence Berkeley National Laboratory  
Facilities Division, Design and Construction Department  
One Cyclotron Road  
Berkeley, CA 94720
3. Contact person and phone number:  
Jeff Philliber  
LBNL Environmental Planning Coordinator  
Lawrence Berkeley National Laboratory  
One Cyclotron Road, MS 80-101  
Berkeley, California 94720  
Telephone: (510) 486-5257
4. Project location:  
The proposed project site is located near the center of the LBNL main site, southwest and adjacent to the Advanced Light Source (ALS) building, south of Buildings 80 and 80A and northwest of Buildings 34 and 37.
5. Project sponsor's name and address: (See #2 & #3)
6. Custodian of the administrative record for this project (if different from response to item 3 above):
7. Identification of previous EIRs relied upon for tiering purposes (including all applicable LRDP and project EIRs) and address where a copy is available for inspection.
  - *Lawrence Berkeley Laboratory Site Development Plan Environmental Impact Report, August 1987. [SCH 85112610]*
  - *Draft and Final Supplemental Environmental Impact Reports for the Proposed Renewal of the Contract Between the United States Department of Energy and The Regents of the University of California for Operation and Management of the Lawrence Berkeley Laboratory (1992). [SCH 91093068]*

- *Supplemental Environmental Impact Report Addendum for the Proposed Renewal of the Contract Between the United States Department of Energy and The Regents of the University of California for Operation and Management of the Ernest Orlando Lawrence Berkeley Laboratory (1997). [SCH 91093068]*

All of these documents are available for inspection at:

Berkeley Public Library  
2090 Kittredge Street, 2<sup>nd</sup> Floor Reference Department  
Berkeley, Ca 94704

or contact:

Jeff Philliber  
LBNL Environmental Planning Coordinator  
Lawrence Berkeley National Laboratory  
One Cyclotron Road, MS 80-101  
Berkeley, California 94720

Phone: 510-486-5257

## **II. PROJECT DESCRIPTION:**

1. Description of project: Describe the whole action involved, including but not limited to physical characteristics, site, later phases of the project, and any secondary, support, or off- site features necessary for its implementation and site selection process. Attach additional sheets if necessary.

Refer to Project Description

2. Project Objectives:

Refer to Project Description

3. Surrounding land uses and environmental setting: Briefly describe the project's surroundings:

Refer to Project Description

4. Discretionary approval authority and other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement.)  
University of California, and the Regents of the University of California

Bay Area Air Quality Management District (BAAQMD)

5. Consistency with the LRDP: (Describe the project's consistency with: the scope of development projected in the LRDP; campus and community population levels projected in the LRDP; LRDP designation for this type of project; and applicable policy objectives and goals of the LRDP).

Refer to Project Description

### Project Description

This tiered Initial Study (IS)/Mitigated Negative Declaration (MND) is being prepared by The University of California (UC or the University) to evaluate potential environmental impacts of the proposed Lawrence Berkeley National Laboratory (LBNL, Berkeley Lab, or the Laboratory) User Support Building (USB). This facility is proposed due to the need for research space at the existing Advanced Light Source (ALS) building as a result of growth across all of LBNL's scientific programs.

The proposed project site is situated on the LBNL main site in Berkeley, CA. LBNL is an approximately 200-acre multi-program research national laboratory operated and managed by the University of California (UC) under contract with the U.S. Department of Energy (DOE). The proposed project's location within the region and local vicinity are illustrated in Figures 1 and 2. The proposed project site is located near the center of the LBNL main site, southwest of the ALS building, south of Buildings 80 and 80A and northwest of Buildings 34 and 37. As shown in Figure 3, the proposed project site is approximately 17,000 square feet (sf) and accessible via Lawrence Road; one of the main arterials on the LBNL campus. The site is currently occupied by Building 10, a two-story approximately 16,038 gross square-foot (gsf) structure that was constructed in 1944, and is currently an ALS support facility.

As shown in Figures 4-7, the proposed project site is defined by a combination of existing LBNL buildings, hardscape features including parking areas and loading zones, and a wooded hillside and access road to the southwest. Overall, the existing Building 10 and surrounding buildings combine to form an institutional, light industrial setting. A small access road cuts through the middle of the proposed project site and connects to a parking lot for Building 80 to the north. The proposed project site slopes downward to the west; however there is not a substantial elevation change.

The USB project will consist of demolition of Building 10 and construction of a three-story, approximately 30,000 gross square-foot (gsf)/17,416 net square-foot (nsf) facility. The USB would be approximately 48 feet in height and is limited to three standard-height laboratory/office floor levels. The existing Building 10 is 35 feet high at maximum and is not defined by standard-height floor levels. The USB would be used for the precision component assembly of experimental equipment, two-story beamline equipment staging, a potential figure beamline extension from the Advanced Light Source (ALS) building, chemical and biological prep laboratories, chemical storage, and office space. Office/Office Support space would account for 10,005 nsf and Lab/Lab Support would account for 7,411 nsf. The remaining 13,000 nsf of the USB would consist of lesser used areas in the building including, but not limited to, elevator shafts, ductwork shafts and stairwells. The USB would be directly adjacent to the ALS for the direct transport of large, heavy, and sensitive equipment. For this reason, the first floors of both buildings would be aligned. As shown on Figure 3, the USB would be connected to the ALS building on the northeast side. An open area between both buildings would be located on the first floor of each building in order to extend the staging area of the ALS building into the USB.

The laboratory, assembly, and staging spaces would be located on the first floor of the USB with 16-foot, 4-inch floor-to-floor heights. The second floor would be dedicated primarily to office functions for the ALS staff associated with the Mechanical and Control Systems Groups. A seminar room on the second floor would facilitate occasional large conferences associated with the ALS, but be dividable to function primarily as two smaller conference rooms. The third floor would be dedicated entirely to offices for users who typically reside in the building from six months to a few years. The second floor would have a floor to ceiling height, 16 feet, 4 inches, that could accommodate

future laboratories. The third floor would have floor-to-floor heights of 15 feet. Please refer to Figures 8 and 9 at the end of this document for illustrations of the project floor plans.

Common spaces within the USB would consist of conference rooms, a lobby with a recessed wall display area, restrooms, hallways, interaction lounges, and office support areas. The core space includes mechanical, electrical, and telecommunications equipment rooms, chases, elevators, and stairs.

The USB would accommodate approximately 85 occupants at peak capacity consisting of permanent staff, visitors, postdoctoral fellows, and graduate and undergraduate students. It is estimated that approximately 15 full-time staff would work in the USB and the remaining 70 people would consist of visitors, postdoctoral fellows, and students. The 15 permanent staff members would be transferred to office space in the USB from existing LBNL facilities. These employees and visitors currently work in or visit other buildings near the ALS Building including, but not limited to, Building 10, which currently accommodates 24 LBNL staff members.<sup>1</sup> Because full-time staff that would occupy the USB would be transferred from other buildings on the LBNL campus and because visitors, fellows, and students are likely to already visit LBNL for work or research purposes, the project is not expected to result in a substantial net population increase (either temporary or permanent) on the LBNL campus.

The project would also include the following components:

- **Retaining Wall** – The widening of the roadway that traverses the proposed site would require grading and retention work to extend the steeply sloping portion of the site out beyond the current edge. This portion of the project would consist of adding approximately 405 linear feet of retaining wall and about 5,000 sf of pavement to the project site (see Figure 1- info needed from LBNL). The retaining wall would retain between 7 feet to 11 feet of soil. Based on the final grading on the downhill side of the new retaining wall, the exposed height of the wall would be between 2 feet and 6 feet. At the north end, the new retaining wall will be joined into the end of the existing retaining wall that is located due west of Building 80. The proposed location of the retaining wall is shown in Figure 10.
- **Parking** – It is anticipated that the proposed project would add approximately 14 single car, 2 handicap and 1 van pool parking spaces.<sup>2</sup> Figure 10 illustrates the location of the proposed parking places. It should be noted that the final project design may include a reduced number of new parking spaces or no new spaces at all, however this would not change the conclusions of this analysis. Currently, there are approximately 30 parking spaces available for parking in the lot immediately north of the proposed project site.
- **Widened roadway** – The existing roadway that traverses the proposed project site would be widened in order to accommodate two lanes of traffic. Figure 10 shows the approximate extent and location of the roadway that would be widened. The modification of this road would enhance the efficiency and safety of the existing road. Furthermore, the only traffic that would utilize this roadway would be emergency response vehicle and automobiles accessing the parking lot near Building 80 to the north of the project site.

Conceptual illustrations of the USB's height and massing are provided in Figures 11, 12, and 13. The building has been designed to:

- Minimize building height and mass, while still providing the area necessary to accommodate the project's functions.
- Balance creation of an aesthetically-distinct and pleasing building with the objective to avoid visually competing with, or distracting from, the landmark ALS dome.

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<sup>1</sup> Personal email communication with Joe Harkins of LBNL, October 4, 2006.

<sup>2</sup> Personal email communication with Joe Harkins of LBNL, September 1, 2006.

Primary functions in the USB would include the following:<sup>3</sup>

- Staging area for end stations to prepare experiments prior to installing them on a beamline.
- Mechanical assembly areas to assemble and test a variety of beamline and accelerator components.
- An area suitable to house a potential future beamline extension from the ALS that is anticipated to involve high resolution spectroscopy.
- Chemical and biological preparatory wet laboratories wherein users would prepare samples locally to utilize in their experiments at the ALS.
- A chemical storage area to store the chemicals needed in the chemical preparatory lab as well as those utilized in the course of experiments at the ALS. Chemical storage will not exceed the thresholds for a B rated occupancy.
- Two server rooms to house servers utilized to operate the ALS as well as collect data from experiments at the ALS; and
- A controls lab for the development of software and hardware to be utilized in the operation of the ALS and significant office space to house staff and users.<sup>4</sup>

### C. Policy Setting

#### 1. California Environmental Quality Act (CEQA)

Approvals of University projects at LBNL are subject to the requirements of the CEQA. This tiered IS/MND supports the recommendation that a MND be prepared for this project.

#### 2. National Environmental Policy Act (NEPA)

Projects funded by federal agencies and/or located on DOE-leased land are also subject to NEPA. The proposed project would receive federal funding; a NEPA Categorical Exclusion has been prepared for this project. The project was determined to be categorically exempt in accordance with DOE NEPA Implementing Procedure, 10 CFR Part 1021, Subpart D, Appendix B: Section B.1.15 for operation of support buildings and support structures and B.1.23 for demolition/disposal of buildings. As a result, neither an Environmental Assessment (EA) or Environmental Impact Study (EIS) is required.

#### 3. Tiering of the Negative Declaration

As discussed in Section 15152 of the CEQA Guidelines, "tiering" refers to the use of analysis contained in previously certified, broad-level EIRs (often programmatic EIRs) to support or complement project-specific EIRs or IS/Negative Declarations. This tiered, MND is tiered from LBNL's 1987 Long Range Development Plan Environmental Impact Report (1987 LRDP EIR), as amended, including the documents listed on pages one and two. Based on the *University of California CEQA Handbook, Guideline 2.1.4*, a Tiered Negative Declaration should be prepared when the proposed project could have adverse impacts which were not considered in a Program EIR (e.g. LRDP EIR), but those impacts are not significant.

The 1987 LRDP EIR, as amended, consists of the three programmatic, facility-wide CEQA documents listed on pages 1 and 2.

Through a tiered approach, the project-level environmental analysis for this project incorporates by reference the discussions in the LRDP EIR, as amended (the first-tier EIR), and concentrates on project-specific issues. CEQA

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<sup>3</sup> Information for this section was taken from the *Draft Conceptual Design Report* prepared for the proposed project by M+W Zander on July 14, 2006.

<sup>4</sup> Personal email communication with Joe Harkins of LBNL, September 19, 2006.

Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

More specifically, tiering allows subsequent environmental review to rely on a Program EIR for the following:

- A discussion of general background and setting information for environmental topic areas.
- Overall growth-related issues.
- Issues that were evaluated in sufficient detail in the Program EIR and for which there is no significant new information or change in circumstances that would require further analysis.
- Long-term cumulative impacts; and
- Mitigation measures from the 1987 LRDP EIR, as amended, that are applicable to the proposed project.

“Tiering” is a beneficial tool for lead agencies in that it allows for the elimination of repetitive issues which have already been addressed in the first-tier EIR and focuses on issues which are ripe for decision in the second-tier environmental document. This “stream-line” process does not excuse the lead agency from adequately analyzing reasonably foreseeable significant environmental impacts that the project may cause if the impacts were not adequately analyzed in the first-tier EIR.<sup>5</sup>

Under CEQA Guidelines Section 15152 (“Tiering”), significant impacts are considered to have been adequately addressed by a previous EIR where:

- The impacts were mitigated or avoided in connection with a previous EIR.
- The impacts were examined at a sufficient level of detail in the prior EIR to enable the effects to be mitigated or avoided by site-specific revisions, the imposition of conditions, or other means in connection with the approval of the later project.

In the case of the tiered MND undertaken for this project, general discussions from the 1987 LRDP EIR, as amended, are referenced in the CEQA checklist. Mitigation measures identified in the 1987 LRDP EIR, as amended, that apply to this project would be implemented under the project, and have been identified as part of this project review. Other project-specific mitigation measures for potentially significant impacts not addressed in detail in the 1987 LRDP EIR, as amended, may also be implemented as part of this project.

#### 5. Mitigated Negative Declaration

According to CEQA Statutes Section 21064, a MND is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the project have been made or mitigation measures will be implemented which will reduce all potentially significant impacts to less than significant levels.

The content of the MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring Program. Per standard CEQA procedure, the Mitigation Monitoring Program will be included in the Final Mitigated Negative Declaration.

#### 6. 1987 Long Range Development Plan (1987 LRDP)

The 1987 LRDP completed for LBNL was approved in 1987 by The UC Regents. The LRDP organizes LBNL into seven functional planning areas to consolidate related functions, maximize efficiency, and establish a network of

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<sup>5</sup> UC CEQA Handbook. 2.8-Structuring Tiered Documents. <http://www.ucop.edu/facil/pd/CEQA-Handbook/index.html>. Accessed June 14, 2006

roadways, pedestrian paths, and parking.<sup>6</sup> The project site is in the functional planning area designated in the LRDP as the “Light Source Research and Engineering Area,” which is also known as “Old Town” or “the original laboratory site.” According to the 1987 LRDP, this area is to be “renovated and reconstructed to allow the efficient and safe conduct of research and the design and fabrication of advanced electrical and mechanical systems.”<sup>7</sup>

The proposed project would provide valuable research space in the Old Town planning area and thereby be consistent with the 1987 LRDP.

#### 7. City of Berkeley General Plan

The City of Berkeley General Plan is a statement of the City’s priorities, which are relied upon to guide public decision making. As a federal facility operated by UC and conducting work within UC’s mission, LBNL is generally exempt under federal and State constitutions from compliance with local requirements. However, LBNL seeks to cooperate with local jurisdictions to reduce the physical consequences of its activities to the extent feasible. The General Plan land use designation for the project site is Institutional.<sup>8</sup> Areas of Berkeley designated as institutional are for institutional, government, educational, recreational, open space, natural habitat, woodlands, and public service uses and facilities. Berkeley General Plan Policy LU-35 states that the City of Berkeley shall “develop and foster close working relationships with the UC to ensure and facilitate land use decisions that are mutually beneficial to the institution and the adjoining neighborhoods.”<sup>9</sup>

#### 8. 2006 Long Range Development Plan (2006 LRDP)

Although not yet publicly circulated or approved, a new LRDP for LBNL is currently in preparation. In November 2000, a Notice of Preparation (NOP) was issued for the LRDP EIR. A Revised NOP was issued in October 2003. The new LRDP would direct growth and development at LBNL for approximately the next 20 years. It is expected that the draft LRDP and LRDP EIR will be circulated for public review in early 2007. The proposed USB project would be accounted for in the new LRDP as a planned project and included in the cumulative impacts analysis.

#### 9. Sustainability

Sustainable building principles would be incorporated into the design and construction of the proposed project. The goal is to meet the requirements of the US Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ Silver certification.<sup>10</sup>

Environmentally-responsible principles would be incorporated in the design including sensitive siting and orientation (to take advantage of natural elements for heating and cooling), responsible building materials and finishes (low reflectance and low maintenance materials), energy conservation (day lighting and an automated energy management system) as well as water conservation and waste minimization during construction and operational phases.

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<sup>6</sup> 1987 LRDP for LBNL. Chapter 5: Functional Planning Areas and the Long Range Development Plan Map. [http://fac.lbl.gov/Facilities/Planning/Publications/lrdp87/lrdp\\_5.html#RTFToC6](http://fac.lbl.gov/Facilities/Planning/Publications/lrdp87/lrdp_5.html#RTFToC6). Accessed September 25, 2006.

<sup>7</sup> 1987 LRDP for LBNL. Chapter 5: Functional Planning Areas and the Long Range Development Plan Map. [http://fac.lbl.gov/Facilities/Planning/Publications/lrdp87/lrdp\\_5.html#RTFToC6](http://fac.lbl.gov/Facilities/Planning/Publications/lrdp87/lrdp_5.html#RTFToC6). Accessed September 25, 2006.

<sup>8</sup> City of Berkeley General Plan. Land Use Element. 2001. <http://www.ci.berkeley.ca.us/planning/landuse/plans/generalPlan/landUse.html>. Accessed September 25, 2006.

<sup>9</sup> City of Berkeley General Plan. Land Use Element. 2001. <http://www.ci.berkeley.ca.us/planning/landuse/plans/generalPlan/landUse.html>. Accessed May 23, 2006.

<sup>10</sup> The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the US Green Building Council (USGBC), provides a list of standards for environmentally-sustainable construction. The system offers four levels of accomplishment: LEED Certified, Silver, Gold, and Platinum according to how well the building performs on a checklist including five major areas: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials & Resources, and Indoor Environmental Quality, plus four checklist items reserved for any innovation above and beyond what is required by the checklist. [http://en.wikipedia.org/wiki/Leadership\\_in\\_Energy\\_and\\_Environmental\\_Design](http://en.wikipedia.org/wiki/Leadership_in_Energy_and_Environmental_Design). Accessed August 4, 2006.

10. Site Preparation

The proposed project site is located at an elevation which ranges from 874-880 feet above sea level. The USB site is located on a relatively level graded pad. The western border of the site slopes downward, however this variation in the terrain does not include a substantial elevation change. As currently envisioned, the project would include widening the outboard edge of the pad, which would involve the construction of the previously mentioned retaining wall. The northwest corner of the site slopes gently downhill and would require main entry stairs and an accessible ramp. There are trees located along the southeast perimeter of the proposed site. As discussed in the biological section of the checklist below, approximately 11 to 15 trees may be removed as a result of site preparation. These trees include planted ornamental pine, bottle brush, and blue gum. None of the species that would be impacted would be native species and no coast live oaks would be removed.

11. Parking and Site Access

As stated above, about 30 general parking spaces are available to the northwest of Building 80, approximately 100 feet from the project site. The proposed project would add approximately 14 single car, two handicap and one van pool parking spaces.<sup>11</sup> Parking directly adjacent to the building would include a parking lot for loading and disabled access vehicles. Many users of the USB would arrive by public transportation, including the LBNL shuttle bus, which features a nearby shuttle stop. Through implementation of LBNL's ongoing Transportation System Management Program (TSMP), employees and visitors of the USB may also be able to access the site by carpool, vanpool, and bicycle.

12. Utilities

Project utility needs would consist of sanitary sewer, storm sewer, potable water, industrial water, chilled water, treated water, LCW (low conductivity water), compressed air, natural gas, fire alarm systems, telephone, fiber optic cable, electrical power, site lighting, and security systems. Most of the site utility services are located under the existing road adjacent to the proposed building, and have adequate capacity to supply the new building once the Building 10 loads are removed.<sup>12</sup> Hot and chilled water are not provided as a site utility, therefore chillers and boilers would be located within a first floor mechanical room. Cooling tower water is available nearby in Building 34, with adequate capacity to supply the building chillers and certain laboratory functions. Telecommunications would be provided directly from the existing ICS Node, which is located directly adjacent to the west end of the proposed new building. Provision of utilities is discussed further in Section 16 of the checklist.

13. Project Construction Schedule

Demolition of Building 10 would take place from March 2007 through July 2007. Construction of the USB would commence in March 2008 and run for 18 months.

14. Mitigation Measures

The following project-specific mitigation measures identified in the IS/MND would be adopted as part of project approval and would reduce project related impacts to a less-than-significant level:

**USB Mitigation Measure AIR-1:** Project contractors shall implement the following BAAQMD recommended measures during construction and demolition:

1. Pave or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
2. If demolition or construction methods involve loading dust-generating debris into trucks from elevated points (i.e. third story of building), dust proof chutes should be used to the maximum extent feasible.

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<sup>11</sup> Personal email communication with Joe Harkins of LBNL, September 1, 2006.

<sup>12</sup> *Draft Conceptual Design Report* prepared for the proposed project by M+W Zander on July 14, 2006. Page 16.

3. Sweep daily (with water sweepers) all paved access roads; parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
4. Hydroseed or apply (non-toxic) soil stabilizers to inactive disturbed areas (i.e. previously-graded areas that are inactive for 10 days or more).
5. Limit traffic speeds on any unpaved roads to 15 miles per hour (mph).
6. Replant vegetation in disturbed areas as quickly as possible.
7. Suspend demolition activities that cause visible dust plumes to extend beyond the work site.
8. Prohibit use of “dirty” equipment. Opacity is an indicator of exhaust particulate emissions from off-road diesel powered equipment. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.
9. The contractor shall install temporary electrical service to avoid the need for independently powered equipment (e.g. compressors).
10. Diesel equipment standing idle for more than two minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site.
11. Properly tune and maintain equipment for low emissions.

**USB Mitigation Measure CULT-1:** If an archaeological artifact is discovered on-site during construction under the proposed LRDP, all activities within a 50-foot radius shall be halted and a qualified archaeologist shall be summoned within 24 hours to inspect the site. If the find is determined to be significant and to merit formal recording or data collection, adequate time and funding shall be devoted to salvage the material. Any archaeologically important data recovered during monitoring shall be cleaned, catalogued, and analyzed, with the results presented in a report of finding that meets professional standards.

**USB Mitigation Measure CULT-2:** In the event that human remains are encountered during demolition or construction activities, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
- (B) If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

- (C) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
- (1) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission;
  - (2) The descendant identified fails to make a recommendation; or
  - (3) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

**USB Mitigation Measure GEO-1:** The design of the USB structure shall be consistent with the 2001 California Building Code Geotechnical Parameters, as identified in Table 5 of the Geotechnical Report completed for the project.

**USB Mitigation Measure GEO-2:** The following measures shall be incorporated into the proposed project: (1) use deepened foundation elements that extend below the depth of significant seasonal moisture changes, (2) overexcavate the upper expansive soils and replace them with non-expansive fill, and/or (3) create a void between the expansive soils and overlying structurally-supported elements.<sup>13</sup>

**USB Mitigation Measure GEO-3:** Prior to construction, the foundation contractors shall review the site conditions, as described in the Geotechnical Study and its appendices. During construction, the foundation and other applicable contractors shall implement recommended measures from Sections 5.05 and Chapter 6 of the Geotechnical Study.

**USB Mitigation Measure HAZ-1:** Project contractors shall be required to review and comply with the provisions of the emergency egress plan throughout demolition and construction.

**USB Mitigation Measure NOISE-1:**

- Construction shall be limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and no construction will be permitted to occur on the weekends or holidays.
- Construction equipment and trucks shall use best available noise control devices to avoid unacceptable noise levels.
- Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum sound levels generated by stationary equipment at affected properties will not exceed those listed in the following schedule:

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<sup>13</sup> Geotechnical Study for the User Support Building. Alan Kropp & Associates. Page 12. August 23, 2006

Maximum sound levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	<b>R-1, R-2 Residential (dBA)</b>	<b>R-3 and Above Multi-Family Residential (dBA)</b>	<b>Commercial/ Industrial (dBA)</b>
Daily, 7:00 a.m. to 7:00 p.m.	60	65	70
Weekends, 9:00 a.m. to 8:00 p.m. and legal holidays	50	55	60

**USB Mitigation Measure TRA-1:** The prime contractor shall prepare a Construction Traffic Management Plan which will include the following elements:

- A provision that construction trips to and from the existing Building 10 or future USB site will be made outside the commute hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on all weekdays.
- Proposed truck routes to be used, consistent with the City of Berkeley truck route map.
- Proposed parking for contractors (number of spaces and planned locations).
- Proposed construction equipment and materials staging area, demonstrating minimal conflicts with circulation patterns.
- Expected traffic detours needed, planned duration of each, and traffic control plans for each.

In addition, the project description includes implementation of the mitigation measures from the 1987 LRDP EIR, as listed in Appendix A.

### **III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact”, include Aesthetics, Air Quality, Cultural Resources, Geology/Soils, Hazards and Hazardous Materials, Noise, Transportation/Traffic, Mandatory Findings of Significance. The potential impacts are discussed in the checklist beginning on page 14.

**IV. DETERMINATION: (To be completed by the Lead Agency)**

On the basis of the initial evaluation that follows:

\_\_\_\_\_ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

**X**  
\_\_\_\_\_ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

\_\_\_\_\_ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

\_\_\_\_\_ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

\_\_\_\_\_ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

Signature

Date

Printed Name

For

## V. EVALUATION OF ENVIRONMENTAL IMPACTS:

### General Instructions

- A. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- B. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by information sources cited by the lead agency. (See “No impact” portion of Response Column Heading Definition section below.)
- C. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- D. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- E. The explanation of each issue should identify:
  - 1. the significance criteria or threshold, if any, used to evaluate each question; and
  - 2. the mitigation measure identified, if any, to reduce the impact to less than significant.
- F. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- G. A question has been added at the end of each environmental topic area asking, “Would the project exceed an applicable LRDP/Program EIR standard of significance?” This question is a placeholder for a campus to insert campus specific questions or information relating to their LRDP or program EIR in that topic.

### Response Column Heading Definitions

- A. **Potentially Significant Impact** is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- B. **Less than Significant with Mitigation Incorporated** applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from earlier analyses may be cross-referenced).
- C. **Impact for which LRDP/Program EIR is Sufficient** applies where the impacts of the project were adequately addressed and mitigated to the extent feasible in a certified Long Range Development Plan EIR or in a Program EIR. (See also Tiering section below).
- D. **Less Than Significant Impact** applies where the project creates no significant impacts; or only Less than Significant impacts.
- E. **No Impact** applies where a project does not create an impact in that category. “No Impact” answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which

show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project specific screening analysis).

### Tiering

A. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case a brief discussion should identify the following:

1. Earlier Analysis Used. Identify and state where they are available for review.
2. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to measures based on the earlier analysis.
3. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
4. The column labeled “Impact for which LRDP/Program EIR is Sufficient” is meant to be used in the following situations:
  - a) The LRDP EIR found the impact to be less than significant for all projects, including this project, assuming implementation of applicable LRDP EIR mitigation measures.
  - b) The LRDP EIR concluded that the impact would be significant for some projects, but would not be significant for the project under review.
  - c) The impact is significant on a cumulative but not a project level, and the LRDP EIR fully addressed the cumulative impact, or
  - d) The impact is significant and unavoidable on a project level, but the LRDP EIR contained an adequate project-level analysis for the impact. This conclusion may also be appropriate where the particular impact and associated mitigation measures are sufficiently generic so that no further analysis is necessary or appropriate (i.e. the LRDP EIR contains all of the analysis that reasonably could be included on the topic with respect to all projects generally, including the project), and where no additional mitigation is feasible.

The guidance set forth in UC CEQA Guidelines 15152 (Tiering) should also be considered in making this determination. Where this column of the checklist is selected, an explanation of the basis for doing so should be included in the discussion. The discussion should also state briefly why the criteria for supplemental environmental review under CEQA section 21166 (project changes, changed circumstances and/or new information) have not been triggered.

## **1. AESTHETICS**

### **LRDP EIR, as amended:**

The following relevant impacts to visual quality and aesthetics have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-F-1: Continued implementation of the 1987 LRDP will result in a change to the visual quality of LBNL and the surrounding environs.

Impact III-F-2: Some LBNL projects may be visible because trees, which would have screened the building, have been removed and replacement landscaping will take sometime to reach full height.

As a result of anticipated impacts to visual quality, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-F-1a: Buildings will occupy as limited a footprint as feasible. They will incorporate features that enhance flexibility and future versatility.

Mitigation Measure III-F-1b: Buildings will be planned to blend with their surroundings and be appropriately landscaped. Planned objectives will be for new buildings to retain and enhance long-distance view corridors and not to compromise views from existing homes. New buildings will generally be low-rise construction.

Mitigation Measure III-F-2: Any new facilities will not use reflective exterior wall materials or reflective glass, to mitigate the potential impacts of light and glare.

Mitigation Measure III-D-2a: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as part of all new projects.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Impact for which LRDP/ Program EIR is Sufficient</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>1. AESTHETICS – Would the project:</b>					
a) Have a substantial adverse effect on a scenic vista?				X	
As discussed below, the project would be consistent with Mitigation Measure III-F-1b. The project has been designed so as to not compromise long distance view corridors or views from existing homes. In addition, the building's identity is achieved without detracting from the ALS dome by using a very simple, yet identifiable form. In addition, exterior paint colors have been selected to blend in with adjacent landscaping.					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>The USB would be higher in elevation and larger in mass than the exiting Building 10. The USB building would be 48 feet high and 17,416 sf in size whereas Building 10 is approximately 35 feet high and 16,038 sf in size. The USB would therefore be approximately 13 feet higher and 1,400 sf larger. Figures 10-12 illustrate the proposed scale, mass, and height of the USB.</p> <p>Views of the project site and surroundings from vantage points to the east are generally at higher elevation due to the natural topography. The predominant visual and scenic features from these vantage points are the San Francisco Bay and its coastlines, the Bay and Golden Gate Bridges, and the Oakland and San Francisco skylines. While views from points east of the project site would change with the introduction of the USB, scenic vistas would not be adversely affected as the elevation and massing of the proposed structure would not obstruct views to the aforementioned features.</p> <p>Similarly, views of the project site and surroundings from vantage points to the south and north may change through the introduction of a facility taller and larger than the existing Building 10, however the scale of the proposed building is such that it would not disrupt the overall visual context of the area or adversely affect any scenic vistas from those directions.</p> <p>The USB would be visible from some vantage points the west where Building 10 is not currently visible due to its smaller size. Although this will result in a permanent change to the visual setting from such viewpoints, this would not represent a significant adverse change as views of the ALS Building and the Berkeley Hills ridgeline would remain intact. Looking toward the project area from the west, the roof of the proposed structure would end at the base of the ALS dome, as shown in Figure 12. In addition, the project site is located in a portion of the LBNL campus that is already heavily developed with other structures. The project would therefore not involve a substantial shift away from the existing visual setting of the site and its surroundings. As a result, the project would have a less-than-significant impact on scenic vistas.</p>					
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?					X
<p>The proposed project is located in an area serviced by two-lane roads that provide access to the entire LBNL property. There are no scenic highways located in the vicinity of the proposed project.<sup>14</sup> Thus, no impact to scenic resources associated with a scenic highway would occur.</p>					

<sup>14</sup> California Department of Transportation. Officially Designated State Scenic Highways. <http://www.dot.ca.gov/hq/LandArch/scenic/schwy1.html>. Accessed September 7, 2006.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Impact for which LRDP/ Program EIR is Sufficient</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X	
<p>Currently, the project site is surrounded by the ALS building, Building 80, Building 34 and Building 37, and a cluster of trees on the short slope to the southwest of the site. Aside from these trees, there is no other vegetation bordering the site. Along with the existing building on-site (Building 10), all of the buildings in the project area have an institutional appearance frequently associated with a campus setting. The proposed project would introduce a more modern design amongst adjacent buildings that have been there for several decades.</p> <p>The building's exterior material would be durable, water-resistant, and compatible with the surrounding context.<sup>15</sup> The primary exterior skin system will be 2 inches deep, horizontal fluted, metal panels with mitered corners, but without integral insulation. The color of the metal panels would be selected so that the ALS dome will stand out from both the adjacent trees and the proposed project. During the design stage of the proposed structure, the building's mass, colors and construction materials were studied to ensure that views of the ALS dome were not diminished.<sup>16</sup> The roof would include the LBNL standard single-ply roofing in the medium gray color. This color was selected to reduce the amount of reflected glare for nearby residents that look down on the LBNL buildings.<sup>17</sup> Figures 8 and 9 depict the exterior of the proposed project.</p> <p>Thus, while the project would change the overall visual character of the project area, it would not degrade the character of the site and its surroundings. The project would result in a less-than-significant impact.</p>					
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X		
<p>Implementation of Mitigation Measure III-F-2 from the 1987 LRDP, as amended, would reduce any impact related to light and glare, to a less-than-significant level. The project would not include exterior lighting sources and reflective building surfaces (roof and glass siding) that have the potential to adversely affect day or nighttime views in the area due to a substantial increase in light or glare. Further, on-site, overhead lighting would be downward facing and focused on intended locations through the use of hoods.<sup>18</sup> The use of directional hoods would minimize the spillage of light and glare onto surrounding areas.</p>					

<sup>15</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006 Page 75

<sup>16</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006 Page 29

<sup>17</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006 Page 76

<sup>18</sup> Personal communication with Joe Harkins of LBNL, October 20, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
e) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As explained in the checklist, with the implementation of the mitigation measures identified in the LRDP EIR, as amended, the proposed project would not exceed the Standards of Significance identified in the LRDP EIR, as amended.					

### Summary of Impacts and Mitigation Measures:

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures III-F-1a, III-F-1b, and III-F-2. As a result, no significant aesthetic or visual resources impacts would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None.

## **2. AGRICULTURAL RESOURCES**

### **LRDP EIR, as amended:**

The LRDP EIR, as amended, did not identify any potential impacts to agricultural resources.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>2. AGRICULTURE RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?					X
No impact to agricultural resources would occur, as farmland and agricultural uses do not exist on the proposed project site or in its immediate vicinity. <sup>19</sup>					
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?					X
The project would not involve or affect any land zoned for agricultural uses or any land currently under Williamson Act contracts. Thus, no impact would occur.					
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?					X
The project would not result in other changes to the existing environment that could result in the conversion of farmland to non-agricultural uses. <sup>20</sup> Thus, no impact would occur.					
d) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed an agricultural standard of significance established by the programmatic 1987 LRDP EIR, as amended. The project would not impact agricultural resources and as a result, no project-specific mitigation measures would be required.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

USB Project-Specific Mitigation Measures: None.

<sup>19</sup> SEIR 1997 Addendum. Biological Resources. Page III-D-3.

<sup>20</sup> SEIR 1997 Addendum. Biological Resources. Page III-D-3.

### **3. AIR QUALITY**

#### **LRDP EIR, as amended:**

The LRDP EIR, as amended, uses significance thresholds established by the Bay Area Air Quality Management District (BAAQMD). These thresholds were current as of the last amendments to the LRDP (1992 and 1997). Two subsequent changes to the thresholds are the reduction from 150 pounds-per-day to 80 pounds per-day and the addition of a 15-tons/year standard for the following criteria pollutant emissions: reactive organic gases (ROG), oxides of Nitrogen (NO<sub>x</sub>), and PM<sub>10</sub>. The LRDP EIR, as amended, demonstrated in its 1997 Addendum that it continues to fall below the new, more stringent standards.

The following relevant impacts to air quality were anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-J-1: Construction of new facilities projected in the 1987 LRDP would generate short-term emissions of air pollutants.

Impact III-J-2: The Proposed Project at LBNL would generate long-term emissions of criteria air pollutants.

As a result of anticipated impacts to air quality, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-J-1: Construction contract specifications would require that during construction exposed surfaces would be wetted twice daily or as needed to reduce dust emissions. In addition, contract specifications would require covering of excavated materials.

Mitigation Measure III-J-2: LBNL will design building ventilation systems to minimize emission of criteria air pollutants following compliance with all applicable regulatory requirements (e.g. New Source Review). Although this impact was not found to have exceeded the BAAQMD's threshold for significance, the LRDP EIR, as amended, conservatively identified this impact as not fully mitigated by Mitigation Measure III-J-2 "for the purposes of this SEIR." Thus, project specific mitigation measures are included to ensure full mitigation.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporated</b>	<b>Impact for which LRDP/ Program EIR is Sufficient</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>3. AIR QUALITY</b> – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?					X
<p>The <i>Bay Area 2005 Ozone Strategy</i><sup>21</sup> is the most recently approved regional Clean Air Plan. It was adopted in January 2006 to address the more stringent requirements of the California Clean Air Act with respect to ozone. This plan includes a comprehensive strategy to reduce emissions from stationary, area, and mobile sources that contribute to ozone formation in the region. Many of these measures are effective in reducing PM<sub>10</sub> and PM<sub>2.5</sub>. The region does and is not required to have plans for reducing PM<sub>10</sub> or PM<sub>2.5</sub>. However, SB656, required the BAAQMD to review rules adopted by other air pollution control districts in the State and develop and implementation plan for adopting newer rules that would reduce PM<sub>10</sub> and PM<sub>2.5</sub>. As a result, the BAAQMD is considering newer emissions standards to further regulate internal combustion engines and new regulations for commercial boiling operations. Enhancements to programs that reduce wood smoke emissions in winter are also being studied.</p> <p>As explained in the project description, the project would not cause an increase in either the full-time (staff) or temporary (visitors and students) population at the LBNL campus. As a result the project would not trigger an increase in vehicle miles traveled, which can have an adverse effect on air quality. Furthermore, as discussed in response to other criteria within this section, the demolition of Building 10 and the construction and operation of the USB would not significantly impact air quality. As a result, the project would not conflict with regional clean air plan efforts and no impact would occur.</p>					
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X			
<p><u>Construction Phase</u></p> <p>Dust would be generated during project demolition and construction activities. Most of the dust would result during demolition and site grading activities. The amount of dust generated would be based on the size of the area disturbed (approximately 17,000 sf), amount of activity, soil conditions and meteorological conditions. Although demolition and construction activities would be temporary, they would have the potential to cause both nuisance and air quality impacts. PM<sub>10</sub> is the pollutant of greatest concern associated with dust. If uncontrolled, PM<sub>10</sub> levels downwind of actively disturbed areas could possibly exceed State standards. In addition, dust fall on adjacent properties could be a nuisance. If uncontrolled, dust generated by demolition activities represents a potentially significant impact. A project-specific mitigation measure to address these potentially significant impacts is discussed below.</p>					

<sup>21</sup> *Bay Area 2005 Ozone Strategy*, Metropolitan Transportation Commission, Bay Area Air Quality Management District, and Association of Bay Area Governments, January 4, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>Construction equipment used for demolition and construction along with associated heavy-duty truck traffic produces diesel exhaust, which is a known Toxic Air Contaminant (TAC). In addition, off-road construction equipment is a source of nitrogen oxides that can contribute to regional ozone formation. Demolition and construction for this project would involve the use of diesel-powered equipment and heavy duty trucks. The BAAQMD has not developed any procedures or guidelines for quantifying these impacts from temporary construction activities where emissions are transient. They are typically evaluated for stationary sources (e.g. large compression ignition engines such as generators) in health risk assessments over the course of lifetime exposures (i.e. 24 hours per day over 70 years). Diesel exhaust may pose both a health and nuisance impact to nearby receptors. However, demolition activities associated with the removal of Building 10 are expected to occur during a relatively short time, and therefore, the impacts are considered to be less than significant if reasonable available control measures are applied. Reasonable available control measures are incorporated into USB Mitigation Measure AIR-1 below.</p> <p>The BAAQMD considers any impacts associated with construction that implement appropriate mitigation measures as less than significant.<sup>22</sup> Construction activities for this project would be in compliance with Mitigation Measure III-J-1 in the 1987 LRDP EIR, as amended with regards to fugitive dust control measures. In addition, the following project-specific mitigation measure would be implemented during construction and demolition. The combination of Mitigation Measure III-J-1 and USB Mitigation Measure AIR-1 would reduce potential impacts to a less-than-significant level during construction and demolition.</p> <p><b>USB Mitigation Measure AIR-1:</b> Project contractors shall implement the following BAAQMD recommended measures during demolition and construction.</p> <ol style="list-style-type: none"> <li>1. Pave or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.</li> <li>2. If demolition or construction methods involve loading dust-generating debris into trucks from elevated points (i.e. third story of building), dust proof chutes should be used to the maximum extent feasible.</li> <li>3. Sweep daily (with water sweepers) all paved access roads; parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.</li> <li>4. Hydroseed or apply (non-toxic) soil stabilizers to inactive disturbed areas (i.e. previously-graded areas that are inactive for 10 days or more).</li> <li>5. Limit traffic speeds on any unpaved roads to 15 mph.</li> <li>6. Replant vegetation in disturbed areas as quickly as possible.</li> <li>7. Suspend demolition activities that cause visible dust plumes to extend beyond the work site.</li> <li>8. Prohibit use of “dirty” equipment. Opacity is an indicator of exhaust particulate emissions from off-road diesel powered equipment. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.</li> </ol>					

<sup>22</sup> Bay Area Air Quality Management District. 1996. BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans, revised December 1999.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>9. The contractor shall install temporary electrical service to avoid the need for independently powered equipment (e.g. compressors).</p> <p>10. Diesel equipment standing idle for more than two minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site.</p> <p>11. Properly tune and maintain equipment for low emissions.</p> <p><u>Operational Phase</u></p> <p>During the operational phase, the project would emit solvent chemical vapors at levels that would be negligible in relation to the BAAQMD thresholds, some of which are quantified at the beginning of this section.<sup>23</sup> Because operational emissions volumes would be less than BAAQMD's standards for significant impacts, long-term impacts on air quality during the operational phase of the project would be less-than-significant.</p>					
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				X	
<p><u>Construction Phase</u></p> <p>The BAAQMD does not have quantitative thresholds for judging the significance of construction-period emissions. The application of reasonable control measures to reduce emissions is used to judge project impacts. USB Mitigation Measure AIR-1 identified under b) above would be sufficient to reduce the impact of these emissions to a less-than-significant level. As a result, the project would not result in a cumulatively considerable net increase of any criteria pollutant during demolition or construction. A less-than-significant impact would occur.</p> <p><u>Operational Phase</u></p> <p>The proposed project would not result in a cumulatively considerable net increase in any criteria pollutant, for which the project region is in non-attainment (federal and State ozone and State PM<sub>10</sub> and PM<sub>2.5</sub>.) Criteria pollutants from operational activities at the project site would be well below the quantitative thresholds of significance set by the BAAQMD.<sup>24</sup> The project would emit solvent chemical vapors at levels that would be negligible in relation to the applicable thresholds. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. As a result, a less-than-significant impact would occur.</p>					
d) Expose sensitive receptors to substantial pollutant concentrations?				X	

<sup>23</sup> Personal email communication with Keith Gershon of LBNL, September 12, 2006.

<sup>24</sup> Personal email communication with Keith Gershon of LBNL, September 12, 2006

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p><u>Construction Phase</u></p> <p>Building 10, which would be demolished as part of this project, includes materials containing asbestos that would have to be removed. Asbestos is a fibrous mineral which is both naturally-occurring in ultramafic rock (a rock type commonly found in California), and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, such as asbestosis and lung cancer, it is strictly regulated either based on its natural widespread occurrence, or in its use as a building material. The BAAQMD regulates the demolition of buildings and structures that may contain asbestos. The demolition, renovation or removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2. The rule requires special handling of asbestos containing materials (e.g. by keeping materials continuously wetted). The Rule prohibits any visible emissions of asbestos containing materials to outside air. LBNL would be required to consult with the BAAQMD's Enforcement Division prior to commencing demolition of Building 10. Because the proposed project would meet this requirement, asbestos-related impacts would be considered less than significant.</p> <p><u>Operational Phase</u></p> <p>Neither the project itself nor adjacent uses would generate pollutants at substantial concentrations or durations, and it is not expected that sensitive receptors within the vicinity of the project site would be adversely affected by exposure to substantial or even measurable pollutant concentrations. The project proposes small laboratory uses and may include some stationary sources of air pollutants (e.g. natural gas combustion boilers or emergency generators). The proposed project would include 1 vented flame cab, 10 linear feet of fume hoods and 2 vented bio-safety cabs.<sup>25</sup> These types of sources are regulated by the BAAQMD. The BAAQMD typically considers permitted sources of air pollution such as these, or exempt sources, to have less than significant air quality impacts. Thus, the project would have a less-than-significant impact.</p>					
e) Create objectionable odors affecting a substantial number of people?					X
<p>The proposed project consists of the construction of a facility that would house assembly space, support laboratories and offices. During operation, the project would emit solvent chemical vapors at levels that would be negligible. It would not consist of any activities during the construction or operation periods that would produce objectionable odors.<sup>26</sup> As a result, no impact would occur.</p>					

<sup>25</sup> Personal email communication from Joe Harkins of LBNL, August 17, 2006.

<sup>26</sup> Personal email communication from Joe Harkins of LBNL, September 19, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Exceed an applicable LRDP or Program EIR standard of significance?		X			
The applicable standard of significance from the LRDP EIR, as amended, is an 80 pounds per day and 15 tons per year threshold for reactive organic gases (ROG), oxides of Nitrogen (NO <sub>x</sub> ), and PM <sub>10</sub> . As explained through the checklist discussion above, with the implementation of the project-specific mitigation measures and mitigation measures identified in the LRDP EIR, as amended, the Proposed Project would not exceed the Standards of Significance identified in the LRDP EIR, as amended.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: Violation of an air quality standard or substantial to an existing or projected air quality violation.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures III-J-1 and III-J-2.

USB Project-Specific Mitigation Measures: USB AIR-1.

## **4. BIOLOGICAL RESOURCES**

### **LRDP EIR, as amended:**

The following relevant impacts to biological resources have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which the present analysis is tiered:

Impact III-D-1: Continued University operation of LBNL, including continued implementation of the 1987 LRDP, is not expected to restrict the number or reduce the range of any rare, endangered, or threatened plant or animal species, or to cause existing fish or wildlife populations to drop below self-sustaining levels.

Impact III-D-2: Continued University operation of LBNL, including continued implementation of the LRDP, will result in the loss of some vegetation, including potential loss of mature trees and areas with some habitat for non-critical species.

As a result of anticipated impacts to biological resources, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-D-2a: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as a part of all new projects.

Mitigation Measure III-D-2b: Invasion of opportunistic colonizer trees and shrubs will be controlled. A maintenance program for controlling further establishment of eucalyptus, green wattle acacia, French broom,

cotoneaster, and other opportunistic colonizer shrubs and trees in disturbed areas on-site will be undertaken. Herbicides will not be used for this purpose.

Mitigation Measure III-D-2c: Removal of native trees and shrubs will be minimized. (To the greatest extent possible, the removal of large coast live oak, California bay, and Monterey pine trees will be avoided.)

Mitigation Measure III-D-2d: Disturbance to the site perimeter buffer zones will be minimized.

Mitigation Measure III-D-2e: LBNL activity and encroachment in Blackberry Canyon will be minimized.

Mitigation Measure III-D-2f: Periodic monitoring of disturbed areas, fill slopes, and other areas of exposed soil treated under the revegetation program will be conducted and fixed.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>4. BIOLOGICAL RESOURCES –</b> Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X	

A habitat suitability analysis was conducted by Environmental Collaborative on September 22, 2006 to determine whether potentially suitable habitat for special-status species is present on the project site. Special-status species are plants and animals that are legally protected under the State and/or Federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat.

Several special-status plant species are known to occur in the Berkeley Hills, such as Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), Diablo helianthella (*Helianthella castenea*), fragrant fritillary (*Fritillaria liliacea*), Mt. Diablo buckwheat (*Eriogonum truncatum*), pallid manzanita (*Arctostaphylos pallida*), round-head coyote mint (*Monardella villosa* ssp. *globosa*), Santa Cruz tarplant (*Holocarpha macradenia*), and western leatherwood (*Dirca occidentalis*). These species have varied legal status, and most are considered rare in California (list 1B) by the CNPS. The extensive disturbance, including installation of structures, roadways, landscaping, and routine maintenance for fire control preclude the occurrence of any special-status plant species on the site. As shown in Figures 4-7, the project site is largely defined by Building 10, other LBNL buildings, and hardscape (concrete areas used for parking, equipment movement, and loading).

Non-native ruderal (weedy) grassland species, iceplant (*Carpobrotus* sp.) groundcover, and scattered planted trees grow on the slope below and to the southwest of the existing Building 10. Tree species on the slope below the building are all non-native species and consist of: two blue gum (*Eucalyptus globulus*) and one other

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>eucalyptus (<i>Eucalyptus</i> sp.); one Monterey pine (<i>Pinus radiata</i>) and five other pine species (<i>Pinus</i> sp.); four oaks (<i>Quercus</i> sp.); and a bottle brush (<i>Callistemon</i> sp.). A few sapling native coast live oaks (<i>Quercus agrifolia</i>) are scattered on the lower slope but all have trunk diameters under 5 inches at breast height. Ruderal grassland cover includes: wild oats (<i>Avena</i> spp.), bromes (<i>Bromus</i> sp.), and bristly ox-tongue (<i>Pichris echiodes</i>), among others. Groundcover growth below the trees is generally sparse to absent, limited by a dense canopy and a thick layer of duff.</p> <p>Suitable habitat for special-status animal species is absent from the project site due to the existing development, absence of conditions necessary to support these species, and fragmentation from suitable habitat. This includes absence of freshwater marsh and riparian habitat necessary for California red-legged frog, grassland habitat necessary to support Berkeley kangaroo rat, larval host plant species for bay checkerspot butterfly, and scrub habitat with sunning areas and prey species necessary to support Alameda whipsnake. Eucalyptus are sometimes used as overwintering areas by monarch butterfly, but no colonies have been reported from the project site vicinity by the CNDDDB, and the two blue gum trees on the project site are too exposed to provide suitable colonial roosting locations. No evidence of any raptor nesting activity was observed during the field survey in September 2006, and the extent of surrounding development and intensity of human activity makes the likelihood of nesting in the few trees on the site highly unlikely.</p> <p>Based on the most recent USFWS determination of Proposed Critical Habitat for the Alameda Whipsnake (October 18, 2005), the project site does not overlap with or immediately border the area designated as critical habitat. Alameda whipsnake is State- and federally-listed as a threatened species. It tends to occur in scrub and chaparral habitat with an adequate prey base and rock outcrops and open areas for sunning. It is also known to occur in adjacent grassland, oak woodland, and riparian habitats. The critical habitat designation is intended to identify lands that were part of the historic distribution of whipsnake, which may continue to provide an important function as essential occupied habitat, may possibly serve as movement corridors that would allow for dispersal and re-establishment, or areas that may be suitable for future habitat restoration and re-introduction of the species where it is no longer found. The critical habitat designation does not necessarily mean that either individuals or suitable habitat for the species is present at a particular location. Projects requiring a federal permit or authorization (such as a Nationwide Permit from the U.S. Army Corps of Engineers for proposed filling of wetlands) receive additional scrutiny from the USFWS as part of the Section 7 consultation process when located within critical habitat for a listed species. Because suitable habitat is absent on the project site, it is not located within designated critical habitat, and no Federal permits are required, no potential impacts or take of Alameda whipsnake are anticipated and no formal or informal consultation with the USFWS appears necessary.</p> <p>Due to the nationwide decline of bat populations, a number of bat species have been listed by the USFWS as species of special concern. Both the Fringed and Long-Eared Myotis are bat species of concern and may occur at or in the vicinity of LBNL.<sup>27</sup> These bat species could use crevices in exfoliating tree bark and/or hollow cavities located in trees at LBNL for habitat, as well as abandoned buildings. However, the intensity of human activity precludes the likelihood of possible roosting activity by bats in the existing building on the project site, and the proximity of the few trees on the slope to the south and southwest makes use of these trees by roosting bats highly unlikely. Inspection of these trees during the field reconnaissance in September 2006 indicated no cavities or</p>					

<sup>27</sup> U.S. Fish and Wildlife Service (USFWS), Official Species List for Lawrence Berkeley National Laboratories Long Range Development Plan, Alameda County, California, January 31, 2005a.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>exfoliating bark suitable for roosting by bats in the pines, oaks, and bottle brush. Even the two blue gum contained relatively little exfoliating bark that could possibly be used by roosting bats and the exposed condition and proximity to human activity precludes establishment of an important roosting habitat in these trees.</p> <p>As described above, less than significant impacts on special-status species are anticipated and no mitigation measures are considered necessary.</p>					
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?					X
<p>Based on the field reconnaissance conducted in September 2006 by Environmental Collaborative, the proposed project site is largely developed, contains little natural undeveloped land and lacks natural surface water. Extensive disturbance in the past has eliminated any native vegetative cover on the project site. As a result, the proposed project site does not contain any riparian habitats, native grasslands, or other sensitive natural communities. Thus, no impacts are anticipated.</p>					
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?					X
<p>Based on the results of the field reconnaissance survey conducted in September 2006 by Environmental Collaborative, the proposed project site does not contain any federally protected wetlands or drainages regulated by the State, and therefore would not have any impacts on such resources.</p>					
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X	
<p>Due to the project's location in a highly developed area of LBNL, and the absence of water bodies on-site, the project would not have a significant impact on wildlife habitat or disrupt the movement of any native resident or migratory fish species.</p>					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>The project site has only low value to wildlife as it is largely developed and the remaining undeveloped slope does not support native vegetative cover. Depending on the design of specific improvements, there is a possibility that from 11 to 15 trees could be removed to accommodate a retaining wall and other improvements below the building. However, none of these are native trees, there was no evidence of use for nesting, and they are not believed to provide essential habitat for common wildlife that may occasionally pass through or forage in the vicinity of the project site.</p> <p>Therefore, it is not expected that the project would substantially interfere with the movement of any resident or migratory wildlife species because the project site is already largely developed and is surrounded by other existing development, roads, and parking lots. The project site, which was originally developed in 1944, does not constitute a migratory corridor for either resident or migratory species, and does not serve as a native wildlife nursery. As a result, the project's impact on the movement, movement corridors, or nursery sites of any wildlife or fish species would be less than significant.</p>					
e) Conflict with any local applicable policies protecting biological resources?					X
<p>LBNL is a federal facility operated by UC and conducting work within UC's mission and as such is generally exempted by the federal and state constitutions from compliance with local land use regulations. Although not directly applicable, the City of Berkeley's Coast Live Oak Removal Ordinance "<i>prohibits the removal of any single-stem coast live oak with a circumference of 18 inches or greater, as measured at a distance of 4 feet above ground level, and the removal of any multi-stemmed coast live oak with an aggregate circumference of 26 inches or greater.</i>" Exceptions may be made if the tree poses a danger to people and/or property and the only reasonable solution is tree removal.</p> <p>According to site plans, the proposed project would occupy the existing footprint of Building 10 and additional space outside the footprint. Depending on the design of specific improvements, there is a possibility that from 11 to 15 trees could be removed to accommodate a retaining wall and other improvements below the building. However, none of these trees are native species and no coast live oaks would be impacted. Trees which could be affected by proposed improvements are all planted ornamental species, including pines, bottle brush, and blue gum. Thus, no conflict with the City of Berkeley ordinance would occur and no impacts are anticipated.</p>					
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?					X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>The proposed project site is not located in an area of LBNL that falls under the jurisdiction of a Habitat Conservation Plan or a Natural Community Conservation Plan (i.e. UC Berkeley Management Plan for Strawberry and Claremont Canyons). A draft <i>Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California</i> was prepared by the USFWS for public review and comment in 2003. The Plan includes a description and general policies for Recovery Unit 6 (Caldecott Tunnel Corridor), which includes portions of the LBNL campus but does not appear to extend over the site. This Plan has not been formally adopted and it remains as a draft document. Because no conservation plans have been adopted which encompass the site, no impacts are anticipated.</p>					
g) Exceed an applicable LRDP or Program EIR standard of significance?					X
<p>The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As noted in the discussion above, with the incorporation of LRDP EIR, as amended, mitigation measures III-D-2a-III-D-2f as part of the proposed project, the proposed project would not exceed the Standard of Significance established for determining potential environmental effects to biological resources.</p>					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by the LRDP EIR, as amended: None

USB Project-Specific Mitigation Measures: None

## 5. CULTURAL RESOURCES

### LRDP EIR, as amended:

The following relevant impacts to cultural resources have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-E-1: Continued University operation of LBNL, including continued implementation of the 1987 LRDP, while resulting in removal of substandard buildings, is not expected to adversely impact any significant prehistoric, archaeological, or paleontological site, or any property of historic or cultural significance, other than the Laboratory itself.

As a result of anticipated impacts cultural resources, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-E-1a: A photographic record will be made of all structures demolished as part of future projects.

**Mitigation Measure III-E-1b:** An individual well-versed in the history of science in the twentieth century will evaluate the significance of specific pieces of equipment that may be replaced due to obsolescence or a change in the vector of research.

**Mitigation Measure III-E-1c:** Prior to the completion of a precise development plan for the original laboratory site portion of LBNL, an analysis will be made of the historical significance of buildings on this site. An analysis has been completed of the historical significance of the 184-inch Cyclotron building.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>5. CULTURAL RESOURCES</b> – Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?					X
<p>The proposed project would include the demolition of Building 10, which was constructed in 1944. A review of compliance and consultation records at Lawrence Berkeley National Laboratory (LBNL) and the California Office of Historic Preservation concerning the National Register eligibility of Building 10 revealed that the facility was determined not eligible for inclusion in the National Register in 1995 under the criteria established by 36 CFR 60.4. During a historical resource evaluation of Building 10 completed in 2006, the structure was also evaluated for inclusion in the California Register and found to be not eligible for listing. Although the building has associations with historic developments regarding atomic particle acceleration, most of the features associated with these events have been removed. In addition, those architectural and engineering elements associated with the historic period of significance have been altered to the extent that the structure has lost considerable integrity, and, thus, is not able to convey its significance.<sup>28</sup> Therefore, the demolition of Building 10 would not result in a significant impact. Despite this conclusion, the project is consistent with Mitigation Measure III-E-1a, which requires a photographic record for buildings that will be demolished as part of future projects. As part of the historical resource evaluation discussed above, historical photos of Building 10 were compiled and photos of the structure as it exists today were taken. These photos were integrated into the Historic Architecture Evaluation Report prepared by Northwest Cultural Resources Services in September, 2006. The project would not result in potential adverse changes to any other historically significant resources.</p>					

<sup>28</sup> Historic Architectural Evaluation Report, Building 10-Advanced Light Source (ALS) Support Facility, David Harvey, Northwest Cultural Resources Services, September 21, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X			
<p>Based on a review of the 1987 LRDP EIR, as amended, there are no known archaeological resources located within the proposed project area.<sup>29</sup> In addition, as stated in Impact III-E-1 above, continued University operation of LBNL, including continued implementation of the 1987 LRDP, while resulting in removal of substandard buildings, is not expected to adversely impact any archaeological site. As a result, no impacts to archaeological resources are expected. However, in the unlikely event that archaeological artifacts are discovered during construction (including grading, excavation, and other earthmoving activities), the following project-specific mitigation measure, which is included as part of the LBNL facilities construction specifications, shall be implemented.</p> <p><b>USB Mitigation Measure CULT-1:</b> If an archaeological artifact is discovered on-site during construction under the proposed LRDP, all activities within a 50-foot radius shall be halted and a qualified archaeologist shall be summoned within 24 hours to inspect the site. If the find is determined to be significant and to merit formal recording or data collection, adequate time and funding shall be devoted to salvage the material. Any archaeologically important data recovered during monitoring shall be cleaned, catalogued, and analyzed, with the results presented in a report of finding that meets professional standards.</p> <p>Implementation of this measure would reduce potential impacts to a less-than-significant level.</p>					
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?					X
<p>As stated in the 1987 LRDP EIR, as amended, it is not anticipated that paleontological resources would be encountered on-site during project construction.<sup>30</sup> In addition, as stated in Impact III-E-1 above, continued University operation of LBNL, including continued implementation of the 1987 LRDP, while resulting in removal of substandard buildings, is not expected to adversely impact any significant prehistoric site. As a result, no impacts to paleontological resources are expected.</p>					
d) Disturb any human remains, including those interred outside of formal cemeteries?		X			
<p>Based on a review of the 1987 LRDP EIR, as amended, it is not anticipated that human would be encountered on-site during project construction.<sup>31</sup> In addition, as stated in Impact III-E-1 above, continued University operation of LBNL, including continued implementation of the 1987 LRDP, while resulting in removal of substandard buildings, is not expected to adversely impact any significant property of historic or cultural</p>					

<sup>29</sup> DSEIR for LBNL, Historical and Archaeological Resources Chapter, Page III-E-1, April 1992.

<sup>30</sup> DSEIR for LBNL, Historical and Archaeological Resources Chapter, Page III-E-1, April 1992.

<sup>31</sup> DSEIR for LBNL, Historical and Archaeological Resources Chapter, Page III-E-1, April 1992.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>significance, other than the Laboratory itself. As a result, no impacts to human remains are expected. However, in the unlikely event that human remains are discovered during construction (including grading, excavation, and other earthmoving activities), the following project-specific mitigation measure shall be implemented.</p> <p><b>USB Mitigation Measure CULT-2:</b> In the event that human remains are encountered during demolition or construction activities, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <p>(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and</p> <p>(B) If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or</p> <p>(C) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.</p> <p>(1) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission;</p> <p>(2) The descendant identified fails to make a recommendation; or</p> <p>(3) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.</p> <p>Implementation of this measure would reduce potential impacts to a less-than-significant level.</p>					
e) Exceed an applicable LRDP or Program EIR standard of significance?		X			
<p>The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As explained in the checklist discussion, through the implementation of mitigation measures identified in the LRDP EIR, as amended, the Proposed Project would not exceed the Standards of Significance identified in the LRDP EIR, as amended.</p>					

### **Summary of Impacts and Mitigation Measures:**

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: Impacts to archaeological resources and human remains.

USB Project-Specific Mitigation Measures: CULT-1 and CULT-2.

## **6. GEOLOGY AND SOILS**

### **LRDP EIR, as amended:**

The following relevant impacts, resulting from exposure to unstable geologic or soil conditions, have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-B-1: There could be significant impacts on people or property due to continued operation and the development of LBNL facilities in areas susceptible to surface rupture. There may be potential adverse impacts to people and property at the site caused by groundshaking, landsliding, lurching, and differential compaction during a seismic event.

Impact III-B-2: Soil erosion, sedimentation and landsliding caused by construction work may adversely affect the stability of LBNL buildings placed on the site.

As a result of anticipated exposure to geologic and/or unstable soil conditions, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore part of the Proposed Project's description:

Mitigation Measure III-B-1: Geologic and soils studies will be undertaken during the design phase of each LBNL building project. Recommendations contained in those studies would be followed to ensure that the effects of landsliding, lurching, and liquefaction potential will not represent a significant adverse impact during a seismic event.

Mitigation Measure III-B-2a: Excavation and earth moving will be designed for stability, and accomplished during the dry season when feasible. Drainage will be arranged to minimize silting, erosion, and landsliding. Upon completion, all land will be restored, covering exposed earth with planting.

Mitigation Measure III-B-2b: Foundations for proposed structures will be designed in accordance with geologic and soils engineering recommendations to minimize the long-term possibilities of landslide.

Mitigation Measure III-B-2c: Excavations will be shored as required by law to preclude minor short-term landslides during construction.

Mitigation Measure III-B-2d: Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses will be included as part of all new projects.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>6. GEOLOGY AND SOILS</b> – Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to California Geological Survey Special Publication 42.					X
The proposed project site is not located on a trace of an active fault or within the Alquist-Priolo Earthquake Fault Hazard Zone, and therefore is not susceptible to ground surface rupture during an earthquake. <sup>32</sup>					
ii) Strong seismic ground shaking?		X			
<p>The proposed project site is located in a region that is prone to seismic events. Although not located along an active fault, the proposed project site could experience strong ground shaking during a seismic event. Consistent with Mitigation Measure III-B-1 from the 1987 LRDP EIR, as amended, a Geotechnical Study was completed by Alan Kropp &amp; Associates in August, 2006 to identify the project's susceptibility to seismic ground shaking and measures to address these hazards. Based on the conclusion of the Geotechnical Study, the following project-specific mitigation measure would be implemented:</p> <p><b>USB Mitigation Measure GEO-1:</b> The design of the USB structure shall be consistent with the 2001 California Building Code Geotechnical Parameters, as identified in Table 5 of the Geotechnical Report completed for the project.</p> <p>Therefore, through implementation of Mitigation Measure III-B-1 and USB GEO-1, potential impacts related to seismic ground shaking would be reduced to a less-than-significant level.</p>					

<sup>32</sup> DSEIR for LBNL. Geology, Soils and Seismicity Chapter. Page III-B-3. *Figure of Hayward Fault*. April 1992

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?		X			
<p>According to the United States Geologic Survey's (USGS) Liquefaction Hazard Map for Berkeley, the vicinity in which the project site is located is not designated as a Seismic Hazard Zone for liquefaction.<sup>33</sup> However, as discussed in response to item c) of this section of the checklist, the Geotechnical Study completed for this project determined that the fill that underlies the project site has generally high expansion potential. Further, the study concluded that the fill that underlies the project site should be considered generally unsuitable for the support of the USB structure, as there is no documentation verifying its placement, compaction, or uniformity. Based on these factors, there is potential that the forces of a seismic event could cause ground failure at the site, which could include, but may not be limited to, lurching or subsidence.</p> <p>Through the implementation of Mitigation Measure III-B-1, as identified above, and USB Mitigation Measures GEO-1 and GEO-2, as identified below, potential impacts related to seismic-induced ground failure would be reduced to a less-than-significant level.</p>					
iv) Landslides?			X		
<p>According to the USGS's Seismic Landslide Hazard Map for the City of Berkeley, the area in which the proposed project site is located has a "Moderate to Very High" probability for experiencing landslides during a seismic event. Furthermore, the proposed project site includes a relatively steep embankment on its western side, which is supported by a retaining wall.</p> <p>However, according to the geotechnical report completed for the project site, no landslide deposits were encountered in soil borings, nor were any obvious landslide-related features observed during site reconnaissance.<sup>34</sup> In addition, the official California Geologic Survey map for this area shows the nearest earthquake-induced land sliding zones to be on the opposite side of Cyclotron Road to the south and west of the site.<sup>35</sup> Thus, no significant impacts related to landslides are anticipated on-site during the operational phase of the project.</p> <p>During the construction phase the project will implement mitigation measure III-B-2c in the 1987 LRDP EIR, as amended, which would reduce potential landslide impacts to a less-than-significant level. Mitigation Measure III-B-2c is identified in the LRDP EIR section above.</p>					
b) Result in substantial soil erosion or the loss of topsoil?			X		

<sup>33</sup> USGS Liquefaction Hazard Map for Berkeley. [http://pubs.usgs.gov/of/2002/of02-296/of02-296\\_2liq-sg.pdf](http://pubs.usgs.gov/of/2002/of02-296/of02-296_2liq-sg.pdf). Accessed August 1, 2006

<sup>34</sup> Geotechnical Study for the User Support Building. Alan Kropp & Associates. Page 6. August 23, 2006.

<sup>35</sup> Geotechnical Study for the User Support Building. Alan Kropp & Associates. Page 6. August 23, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
During construction activities it is possible that soil erosion or the loss of topsoil could occur, particularly during pre-construction site preparation (i.e. grading). This impact would be reduced to a less-than-significant level through the implementation of Mitigation Measures III-B-2a, c and d from the 1987 LRDP EIR, as amended. These mitigation measures are explained in the LRDP EIR section above.					
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X			
<p>The proposed project site is underlain by sedimentary bedrock of the Orinda Formation, which is characterized as poorly-consolidated claystones, siltstones, and conglomerates of relatively low strength and hardness.<sup>36</sup> Bedrock encountered in two borings on-site consisted predominately of siltstone that can generally be characterized as moderately to very severely weathered of soft to low hardness.</p> <p>Through the use of test borings, fill of varying thicknesses was encountered over bedrock. Testing conducted on a sample of fill soil from a depth of 6-feet revealed a soil having a generally high expansion potential. According to the geotechnical report completed by Alan Kropp &amp; Associates, the fill that underlies the USB site should be considered generally unsuitable for the support of the USB structure, as there is no documentation verifying its placement, compaction, or uniformity.</p> <p>The following project-specific mitigation measures would reduce potentially significant impacts related to unstable soil to a less-than-significant level.</p> <p><b>USB Mitigation Measure GEO-2:</b> The following measures shall be incorporated into the proposed project (1) use deepened foundation elements that extend below the depth of significant seasonal moisture changes, (2) overexcavate the upper expansive soils and replace them with non-expansive fill, and/or (3) create a void between the expansive soils and overlying structurally-supported elements.<sup>37</sup></p> <p><b>USB Mitigation Measure GEO-3:</b> Prior to construction, the foundation contractors shall review the site conditions, as described in the Geotechnical Study and its appendices. During construction, the foundation and other applicable contractors shall implement recommended measures from Sections 5.05 and Chapter 6 of the Geotechnical Study.</p>					

<sup>36</sup> Geotechnical Study for the User Support Building. Alan Kropp & Associates. Page 5. August 23, 2006.

<sup>37</sup> Geotechnical Study for the User Support Building. Alan Kropp & Associates. Page 12. August 23, 2006

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?		X			
<p>According to the geotechnical report completed by Alan Kropp &amp; Associates, the existing on-site fill materials are moderately to highly expansive. Expansive soils shrink and swell in response to changes in moisture content and, unless mitigated, can cause damage to structures and other types of improvements.</p> <p>Implementation of Mitigation Measures USB GEO-2 and GEO-3 would reduce potential impacts related to expansive soils to a less-than-significant level.</p>					
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					X
The proposed project does not include installation of septic tank systems or alternative waste disposal systems, and as such no impacts would occur. <sup>38</sup>					
f) Exceed an applicable LRDP or Program EIR standard of significance?		X			
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As explained in the checklist discussion, with the implementation of the project-specific mitigation measures, and with the mitigation measures identified in the LRDP EIR, as amended, the proposed project would not exceed the Standards of Significance identified in the LRDP EIR, as amended.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: Strong-seismic ground shaking and construction on an unstable soil.

The proposed project would incorporate LRDP EIR, as amended, Mitigation Measures III-B-1, III-B-2a, III-B-2b, III-B-2c, and III-B-2d.

USB Project-Specific Mitigation Measures: USB GEO-1, GEO-2, and GEO-3.

<sup>38</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006 Page 71

## **7. HAZARDS and HAZARDOUS MATERIALS**

### **LRDP EIR, as amended:**

The following relevant and potentially significant impacts, resulting from exposure to hazards and hazardous materials, have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact IV-K-1: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, may result in impacts from the increased use of hazardous materials in research, facility construction, and facility maintenance activities.

Impact IV-K-2: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, is expected to result in the increased generation and discharge of hazardous wastes, including offsite disposal of hazardous, radioactive, and medical wastes, from research, facility construction, and facility maintenance activities.

Impact IV-K-3: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, will result in the increased transportation of hazardous materials and wastes.

Impact IV-K-4: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, will result in the upgrading or removal of regulated building components.

Impact IV-K-5: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, will result in increased numbers of employees and thus increase the potential for exposures to hazardous or radioactive materials.

Impact IV-K-6: Continued UC operation of LBNL, including proposed increases in laboratory and facility space, will result in a need to continue emergency preparedness and response programs to minimize impacts which may result from actual or potential release of hazardous materials in the workplace or the environment.

Impact IV-K-7: Continued UC operation of LBNL, including proposed increase in laboratory and facility space, may affect ongoing activities to characterize and remediate prior spills of hazardous materials and leaching of these materials into the soil and ground water.

The following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure IV-K-1: LBNL will prepare an annual self-assessment summary report. The report will summarize environment, health, and safety program activities, and identify any areas where LBNL is not in compliance with laws and regulations governing hazardous materials, hazardous waste, hazardous materials transportation, regulated building components, worker safety, emergency response, and remediation activities.

Mitigation Measure IV-K-2a: Prior to shipping any hazardous materials to any hazardous waste treatment, storage or disposal facility, LBNL will confirm that the facility is licensed to receive the type of waste LBNL is proposing to ship to that facility.

Mitigation Measure IV-K-2b: LBNL will continue its waste minimization programs and strive to identify new and innovative methods to minimize hazardous waste generated by LBNL activities.

**Mitigation Measure IV-K-3:** LBNL will require hazardous waste haulers to provide evidence that they are appropriately licensed to transport the type of wastes being shipped from LBNL.

**Mitigation Measure IV-K-4:** None required, since upgrading or removing regulated building components will be done in conformance with requirements designed to protect public health and the environment and since the upgrading and removal operations will result ultimately in reductions in the likelihood of potential harm to human health or the environment from potential incidents relating to underground storage tanks, above ground storage tanks, asbestos-containing building materials and electrical equipment containing polychlorinated biphenols.

**Mitigation Measure IV-K-5:** In addition to implementation of the numerous employee communication and training requirements included in regulatory programs, LBNL will undertake the following additional measures as ongoing reminders to workers of health and safety requirements:

- Posting, in areas where hazardous materials are handled, of phone numbers of LBNL offices, which can assist in proper handling procedures and emergency response information. Continuing to post “Emergency Response and Evacuation Plans” in all LBNL buildings.
- Continuing to post all sinks in areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be poured down the drain.
- Continuing to post dumpsters and central trash collection areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be disposed of as trash.

**Mitigation Measure IV-K-6:** LBNL will update its emergency preparedness and response program on an annual basis, and will provide copies of this program to local emergency response agencies and to members of the public upon request.

**Mitigation Measure IV-K-7:** In addition to implementing its site characterization and remediation program, LBL will continue to maintain copies of the results of its environmental and workplace monitoring programs. LBL will continue to make this information available for review at the request of employees or members of the public, as permitted by law.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>7. HAZARDS AND HAZARDOUS MATERIALS</b> – Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X		

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p><u>Construction Phase</u></p> <p>The demolition of Building 10 would result in the transportation and disposal of asbestos-containing building materials (ACMs) and lead paint containing materials. However, because these activities would occur under the provisions of Mitigation Measure IV-K-2a and IV-K-3, and IV-K-4 as identified above, and applicable DOE requirements, neither would create a significant hazard to the public or the environment. Furthermore, both materials are a low-hazard threat to the general public and/or the surrounding environment during transportation or disposal.<sup>39</sup></p> <p>Asbestos will be wrapped on-site by the abatement contractor per all applicable regulations, before being turned over to the LBNL Hazardous Waste Handling Facility for shipping. None of the paint meets the regulatory thresholds for lead based paint, and will not be collected unless it is peeling or flaking. All flaking or peeling paint will be treated as hazardous, collected and packaged on-site by the abatement contractor per all applicable regulations, before being turned over to the LBNL Hazardous Waste Handling Facility for shipping.<sup>40</sup> Through Mitigation Measure IV-K-3, hazardous waste haulers will need to be appropriately licensed to transport such materials.</p> <p>As such, the transportation and disposal of these hazardous materials to an off-site location would represent a less-than-significant impact.</p> <p><u>Operational Phase</u></p> <p>As identified in the project description, a chemical storage room would be used for storage of hazardous solids and liquids that would be used for ALS and USB operations. Storage of solid and liquid chemicals for use at the ALS and USB operations would be stored in the USB chemical storage room, which is designed to be a B-rated occupancy. Smaller quantities of solids and liquids will be stored (typically in hazardous materials cabinets) and used in first-floor USB rooms. The current chemical inventory for Building 10 indicates quantities of corrosive, flammable, toxic, highly-toxic, oxidizer, pyrophoric, unstable-reactive, and water-reactive chemicals well below fire code threshold quantities.<sup>41</sup> Types and volumes of hazardous chemicals used for Building 10 would also be used for the USB.</p> <p>Through the implementation of Mitigation measure IV-K-1, LBNL will conduct an annual assessment to ensure its compliance with laws and regulations concerning storage and handling of hazardous materials and hazardous wastes, and hazardous materials transportation. Thus, storage and usage of hazardous materials on-site during the project's operational phase would result in a less-than-significant impact.</p>					

39 Personal phone communication with Joe Harkins and Jeff Philliber of LBNL, August 29, 2006.

40 Personal email communication from Keith Gershon of LBNL, October 3, 2006.

41 DOE Office of Science and Office of Basic Energy Sciences, ALS/USB at LBNL, Hazards Analysis Report, September, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X		
Through the implementation of Mitigation Measures IV-K-1, IV-K-3, IV-K-4, and IV-K-6, the project would result in less than significant hazards to the public or environment.					
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?					X
The proposed project site is located approximately 0.28 miles north of the UC Berkeley Campus. No other existing or proposed schools or universities are located within one-quarter-mile of the project site. <sup>42</sup> Thus, no impact is anticipated.					
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?					X
The proposed project site is not included on a list compiled pursuant to Government Code Section 65962.5; also known as the Cortese List. <sup>43</sup>  Building 6 (the ALS building), located adjacent to the proposed project site is listed on the Cortese List. <sup>44</sup> However, according to the <i>Environmental Assessment and Corrective Measures Study Report for Remediating Contamination at LBNL Regulated Under RCRA</i> <sup>45</sup> , no contamination from Building 6 has migrated to the proposed project site. Thus, no impact would occur.					

<sup>42</sup> University of California, Berkeley, 2020 LRDP Draft EIR, Hazardous Materials Chapter, Page 4.6-30

<sup>43</sup> California Department of Toxic Substance Control. [http://www.dtsc.ca.gov/SiteCleanup/index.cfm#Cleanup\\_Sites](http://www.dtsc.ca.gov/SiteCleanup/index.cfm#Cleanup_Sites). Accessed August 1, 2006

<sup>44</sup> Initial Study for the 2004 LRDP EIR. <http://www.lbl.gov/Community/LRDP/pdf/NOP-LRDP-EIR-10-28-03.pdf>. Accessed August 1, 2006.

<sup>45</sup> Environmental Assessment and Corrective Measures Study Report for Remediating Contamination at LBNL Regulated Under RCRA, Figures 1-8, September 2005

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?					X
The closest public airport to the project site is the Oakland International Airport, which is approximately 15 miles to the southeast. <sup>46</sup> The project would not be located within an airport land use plan and as a result, no impact to personal safety would occur as a result of aviation hazards.					
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?					X
There are no private airstrips located in the vicinity of the project site. <sup>47</sup> Thus, no impacts related to personal safety as a result of aviation hazards would occur.					
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		X			
<p><u>Construction Phase</u><sup>48</sup></p> <p>LBNL has developed a construction emergency egress plan for the demolition of Building 10 and the construction of the USB. The key components of the plan are as follows:</p> <ul style="list-style-type: none"> <li>• Doors between Building 6 and 10 will be secured and posted as not in service.</li> <li>• Doors exiting Building 6, 80A and 80 will be posted for emergency use only, construction activities on other side.</li> <li>• Emergency egress route from Building 6, 80A and 80 towards the construction area will travel westerly outside the site fence and northerly along the west of B 80 towards Building 2.</li> <li>• Emergency egress from the construction site will travel easterly from the Site Access Gate near the southwest corner of ALS (Building 6).</li> <li>• The construction site roadway will be maintained clear of equipment and debris at all times to provide for emergency vehicle access corridor, with a minimum of 15 feet clear roadway. Only occupied vehicles will be permitted in the emergency corridor.</li> </ul>					

<sup>46</sup> Google Map. <http://www.google.com/maps?hl=en&tab=wl&q=>. Accessed August 1, 2006.

<sup>47</sup> List of California Airports. <http://www.myafd.com/State/ca>. Accessed September 9, 2006

<sup>48</sup> Building 10 and USB Construction Emergency Egress Plan. Provided by LBNL on September 12, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>Implementation of USB Mitigation Measure HAZ-1 would ensure that potential conflicts with the emergency plan would remain less than significant.</p> <p><b>USB Mitigation Measure HAZ-1:</b> Project contractors shall be required to review and comply with the provisions of the emergency egress plan throughout demolition and construction.</p> <p><u>Operational Phase</u></p> <p>The USB would be situated on a site that does not interfere with any roads, fire lanes or key LBNL access-ways. Furthermore, none of the operational activities proposed for the USB would interfere with an emergency response or evacuation plan.</p> <p>As a result, no impact to emergency access would occur during the operational phase of the proposed project.</p>					
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?					X
<p>According to the California Department of Forestry and Fire Protection (CDF) Natural Hazard Disclosure Map Images and Data for Alameda County, the proposed project site is not located in an area that has a substantially high potential for wildland fires.<sup>49</sup> However, the project site does contain various types of vegetation and mature trees that could burn during a wildland fire event.</p> <p>As a result of the October 1991 Oakland Hills fire, LBNL has since conducted a program to reduce the amount of vegetative growth near its buildings and remove vegetation along the perimeter areas that need to be cleared.</p> <p>In 1997, LBNL published a Wildland Fire Evacuation/Relocation Plan. The plan which would apply to the project site is based on a wildland fire scenario that would require rapid mobilization of resources, quick decision making and well-coordinated execution by emergency responders during a wildland fire. Furthermore, fire management would be considered in the selection of plant stock for post construction landscaping as per LBNL's Integrated Landscape Management Program. Based on information provided by CDF, application of LBNL's Wildland Fire Evacuation/Relocation Plan, LBNL's control of vegetative growth around buildings and on the site's perimeters, and strategic selection of plant stock, no significant impacts related to wildland fires are anticipated.</p>					

<sup>49</sup> California Department of Forestry and Fire Protection. *Natural Hazard Disclosure Map Images and Data for Alameda County*. <http://www.fire.ca.gov/ab6/ab6lst.html>. Accessed August 1, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
i) Exceed an applicable LRDP or Program EIR standard of significance?			X		
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. With incorporation of mitigation measures IV-K-1, 2, and 5, the proposed project would not exceed a hazard and/or hazardous materials standard of significance established by the programmatic 1987 LRDP EIR, as amended. In addition, one project-specific mitigation measure would be required to reduce impacts to a less-than-significant level.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: Interference with an emergency egress plan.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures IV-K-1, IV-K-2a, IV-K-2b, IV-K-3, IV-K-4, IV-K-5, IV-K-6, IV-K-7.

USB Project-Specific Mitigation Measures: HAZ-1.

## 8. HYDROLOGY AND WATER QUALITY

### LRDP EIR, as amended:

The following relevant impacts to hydrology and water quality have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-C-1: LBNL is not located in a flood-plain area. Continued University operation of LBNL, including continued implementation of the 1987 LRDP, is not expected to increase off-site flood hazard, erosion, or sedimentation. The project is not expected to deplete groundwater resources, interfere with groundwater recharge, or degrade surface or groundwater quality substantially.

Impact III-C-2: Continued University operation of LBNL, including continued implementation of the 1987 LRDP, could produce increased surface and storm runoff.

As a result of anticipated hydrological and water quality impacts, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-B-2a: Excavation and earth moving will be designed for stability, and accomplished during the dry season when feasible. Drainage will be arranged to minimize silting, erosion, and landsliding. Upon completion, the land will be restored, covering exposed earth with planting.

**Mitigation Measure III-B-2d:** Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees, and grasses, will be included as part of all new projects.

**Mitigation Measure III-C-2:** Each individual project will continue to be designed and constructed with adequate storm drainage facilities to collect surface water from roofs, sidewalks, parking lots, and other surfaces and deliver it into existing channels which have adequate capacity to handle the flow.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>8. HYDROLOGY AND WATER QUALITY – Would the project:</b>					
a) Violate any water quality standards or waste discharge requirements?				X	
<p>LBNL is situated in the ridges and drainage areas of Blackberry and Strawberry Canyons in the East Bay Hills within the Strawberry Creek watershed. Surface water runoff from the proposed USB would be collected in the LBNL storm drain system and would subsequently discharge water further downstream in Strawberry Creek.<sup>50</sup></p> <p>The Berkeley Lab site is a party to the state's general permit for stormwater discharges associated with industrial activity. During both construction and operation of the project, stormwater runoff would be managed in accordance with the requirements of the State Water Resources Control Board (SWRCB). As required by this general permit, Berkeley Lab has prepared and regularly maintains a Storm Water Pollution Prevention Plan (SWPPP), the primary purpose of which is to identify sources of pollutants that could affect the quality of stormwater discharges and to implement measures, called Best Management Practices (BMPs), that are followed to properly manage both stormwater and non-stormwater run off that reaches neighboring surface waters.</p> <p>Given the size (17,000 gsf) of the USB facility, it is not expected that the project would require a separate construction permit from the SWRCB. The threshold for such a permit is currently one acre or nearly 44,000 sf. However, should such a permit be needed, a SWPPP dedicated solely to construction activities for this project would also be required. The project area would revert back to coverage under the site-wide general permit at the end of the construction phase. Based on compliance with SWPPP practices and any other applicable SWRCB regulations, the project would result in a less-than-significant impact in terms of meeting water quality standards and waste discharge requirements.</p>					

<sup>50</sup> Personal email communication from Steve Blair of LBNL, October 24, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?					X
The project would not use water supplied from groundwater sources at or near the site, but from the East Bay Municipal Utility District supply system. <sup>51</sup> Therefore, the project would not need to pump groundwater and would not contribute to the depletion of an established groundwater source. No impact would occur.					
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X	
<p>As noted in response to 4(c) and (d) above, there are no streams, rivers, or other drainages on the project site. Existing rainwater leaders collect storm drainage from the existing Building 10 on the west (4-inch drain), south (6-inch drain) and east (4-inch drain) sides of the building and discharge to the campus stormwater drainage system.<sup>52</sup> The proposed project's drainage system would collect and discharge to these points of connection. The existing drainage pattern from east (upslope) to west (downslope) would be maintained during construction and operation.</p> <p>While the project would increase the amount of impervious building and roadway surface area on-site, the difference would be negligible (1,400 sq ft) and would not result in flooding on or off-site. According to LBNL, the project would not result in an appreciable increase in storm water run off volumes.<sup>53</sup> As a result, the storm water volumes eventually discharged downstream into Strawberry Creek would not substantially alter the existing drainage pattern of the creek. Therefore, the project would result in a less-than-significant impact.</p>					

<sup>51</sup> Personal email communication from Joe Harkins of LBNL, October 24, 2006.

<sup>52</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006, Page 72

<sup>53</sup> Personal email communication from Joe Harkins of LBNL, October 4, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X	
As discussed in response to item (c), the project would not substantially alter the existing drainage pattern of the site nor would the project alter the course of a stream or river. As also explained in the response to item (c) the project would not result in a substantial increase in the volumes of stormwater leaving the site. Thus, a less-than-significant impact is anticipated.					
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X		
The Best Management Practices referred to in item (a) above would include measures that would treat and retain stormwater on-site through the use of items such as grassy swales and detention ponds. The BMPs would prevent excessive stormwater from entering the local stormwater system. For stormwater flows that would enter the local system however, implementation of Mitigation Measure III-C-2 would ensure that drainage systems would have adequate capacity to receive such flows. Therefore, a less-than-significant impact is anticipated.					
f) Otherwise substantially degrade water quality?				X	
Beyond the potential impacts to water quality previously discussed in response to items (a) and (e), the project is not expected to otherwise affect water quality.					
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?					X
According to Impact III-C-1 in the 1997 SEIR, confirms that LBNL is not located in a flood hazard area. <sup>54</sup> Thus, no impacts would occur.					

<sup>54</sup>SEIR for LBNL, Hydrology and Water Quality Chapter, Page III-C-5, April 1992.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?					X
Please refer to the response to item (g) above.					
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?					X
According to the Association of Bay Area Government's Dam Failure Hazard Map for Berkeley/Albany, the proposed project site would not be inundated by flooding caused by levee or dam failure. <sup>55</sup> Thus, no impacts related to such occurrences are anticipated.					
j) Inundation by seiche, tsunami, or mudflow?					X
The proposed project is not located in an area that could be impacted by a seiche, tsunami or mudflow. The proposed project would be located at an elevation above that at which inundation from a tsunami or seiche would occur. <sup>56</sup> As previously discussed in the geology and soils section of this report, the proposed project site is underlain by tightly compacted fill underlain by bedrock, while the remainder of LBNL is underlain by soils which are incongruent to the production of landslides and mudflows. For these reasons mudflows would not represent a substantial risk. <sup>57</sup> No impacts are anticipated.					
k) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As explained in the checklist, with the implementation of the mitigation measures identified in the LRDP EIR, as amended, the Proposed Project would not exceed the Standards of Significance.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

<sup>55</sup> Bay Area Dam Failure Inundation Maps from ABAG. <http://www.abag.ca.gov/bayarea/eqmaps/damfailure/dfpickc.html>. Accessed May 23, 2006

<sup>56</sup> Borrero et al. *Numerical Modeling of Tsunami Effects at Marin Oil Terminals in the San Francisco Bay*, Figure 8: Areas of potential tsunami inundation by a 20-foot tsunami at the Golden Gate Bridge. Page 12.

<sup>57</sup> Borrero et al. *Numerical Modeling of Tsunami Effects at Marin Oil Terminals in the San Francisco Bay*, Figure 8: Areas of potential tsunami inundation by a 20-foot tsunami at the Golden Gate Bridge. Page 12.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures III-B-2a, III-B-2d, and III-C-2. As a result, no significant hydrological impacts or impacts to water quality would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None.

## 9. LAND USE AND PLANNING

### **LRDP EIR, as amended:**

The following relevant impacts to land use and planning policies have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-G-1: There are no LBNL-proposed developments in the site development plan which would impact directly on the privately owned multiple-family or single-family housing along the LBNL western and northern boundaries.

Impact III-G-2: Continued operation of LBNL by the University, including continued implementation of the 1987 LRDP, would result in the conversion of a small amount of open space into urban- or suburban-scale uses.

Impact III-G-3: Continued operation of LBNL by the University, including continued implementation of the 1987 LRDP, would be consistent with the 1990 UC Berkeley Long Range Development Plan, and the General Plans of the City of Berkeley and the City of Oakland.

As a result of anticipated impacts to land use and planning policies, the following mitigation measure, adopted as part of the LRDP EIR, as amended, is already required for the Proposed Project, and is therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-G-2: Buildings proposed for development at LBNL will follow the design guidelines contained in the LBNL LRDP, as amended.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>9. LAND USE AND PLANNING –</b> Would the project:					
a) Physically divide an established community?					X
<p>The proposed project site is an infill site, located near the center of the LBNL Campus. The project would be constructed on the same site as the existing Building 10, which is located among several other LBNL facilities. As a result, the project would not introduce a new structure or facilities where one does not already exist. Rather, the project would include a continuation of institutional uses on the project site. As a result, the project would have no impact in terms of physically dividing a community.</p>					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?					X
<p>As stated in Impact III-G-3 in the 1987 LRDP EIR, as amended, continued operation of the LBNL, including continuing implementation of the 1987 LRDP, would be consistent with the 1990 UC Berkeley Long Range Development Plan, and the General Plans of the City of Berkeley and the City of Oakland. In addition, the proposed project site and the 1987 LRDP are consistent with the City of Berkeley's zoning ordinance designation of "Institutional".<sup>58</sup> As a result, no impacts are anticipated in relation to the land use plans or policies of surrounding jurisdictions. The project's consistency with the 1987 LRDP is discussed below.</p> <p><u>1987 LRDP and LRDP EIR, As Amended</u></p> <p>As mentioned in the project description, the proposed project is located is in the functional planning area designated in the LRDP as the "Light Source Research and Engineering Area," which is also known as "Old Town" or "the original laboratory site." According to the 1987 LRDP, this area is to be "renovated and reconstructed to allow the efficient and safe conduct of research and the design and fabrication of advanced electrical and mechanical systems." The proposed project would provide valuable research space in the Old Town planning area and thereby result in a beneficial contribution to the improvements that are considered in the 1987 LRDP.</p> <p>Furthermore, the proposed project would not exceed a land use standard of significance established by the programmatic 1987 LRDP EIR, as amended. Land use and planning impacts would be less than significant and no project-specific mitigation measures would be required.</p>					
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?					X
<p>As discussed in response to Section 4(f) above, the project site is not located in area of LBNL that falls under the jurisdiction of a habitat conservation plan or natural community conservation plan. Thus, no would occur.</p>					
d) Exceed an applicable LRDP or Program EIR standard of significance?					X

<sup>58</sup> DSEIR for LBNL. Land Use Chapter. Page III-G-7. *Discussion of Impact III-G-1*. April 1992

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. With the incorporation of LRDP EIR, as amended, Mitigation Measure III-G-2 as part of the project, the proposed project would not exceed a land use standard of significance established by the programmatic 1987 LRDP EIR, as amended. Land use and planning impacts would be less than significant and no project-specific mitigation measures would be required.					

**Summary of Impacts and Mitigation Measures:**

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measure III-G-2. As a result, no significant impact to land use or land use policies would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None required.

**10. MINERAL RESOURCES****LRDP EIR, as amended:**

LBNL is not located in a Mineral Resource Zone identified by the California Department of Mines and Geology. Therefore the Proposed Project would have no impact on a Mineral Resource Zone and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>10. MINERAL RESOURCES</b> – Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?					X
No mineral resources exist on the project site or in its vicinity, thus no impacts to mineral resources would occur. <sup>59</sup>					

<sup>59</sup> Department of Conservation, California Geological Survey. California : Principal Mineral-Producing Localities Map 1990-2000. Accessed September 25, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?					X
Please refer to the response for item (a) above.					
c) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed a mineral resources standard of significance established by the programmatic 1987 LRDP EIR, as amended. Mineral resource impacts would be less than significant and no project-specific mitigation measures would be required.					

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

USB Project-Specific Mitigation Measures: None required.

## 11. **NOISE**

### **LRDP EIR, as amended:**

The following relevant impacts to noise levels have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-K-1: Ambient noise levels from the University's continued operation of LBNL will generate noise levels which could conflict with applicable noise ordinances and standards.

Impact III-K-2: Construction activities resulting from continued implementation of the 1987 LRDP could create significant adverse noise impacts on-site.

Impact III-K-3: Since construction periods are of short term, approximately one to two years for site work and exterior construction, the overall off-site construction noise impacts are not expected to be significant.

As a result of anticipated impacts to noise levels, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description.

Mitigation Measure III-K-1: Projected noise levels will be compared with ambient noise levels and the Berkeley Noise Ordinance limits, or other applicable regulations. Acoustical performance standards would be included in future construction documents. LBNL will continue to design, construct, and operate

buildings and building equipment taking into account measures to reduce the potential for excessive noise transmission.

Mitigation Measure III-K-2: Noise-generating construction equipment will be located as far as possible from existing buildings. If necessary, windows of laboratories or offices will be temporarily covered to reduce interior noise levels on-site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>11. NOISE</b> – Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?		X			

LBNL is a federal facility operated by UC and conducting work within UC's mission and as such is generally exempted by the federal and state constitutions from compliance with local land use regulations, including general plans and zoning. However, LBNL seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. Accordingly, LBNL adheres to the City of Berkeley's General Plan Environmental Management Element, which contains guidelines for determining the compatibility of various land uses with different noise environments.

The City of Berkeley Municipal Code, Chapter 13.40, Community Noise, establishes land use noise level limits for developed lands within the City of Berkeley subject to its jurisdiction. Residential exterior noise limits are established in terms of the median hourly ( $L_{50}$ ) sound level. The limits are adjusted upward in 5 dB increments for sounds of shorter duration. In residential areas, the  $L_{50}$  limits range from 55 dBA to 60 dBA during the daytime (7:00 a.m. to 10:00 p.m.) and 45 dBA to 55 dBA during the nighttime (10:00 p.m. to 7:00 a.m.). The commercial daytime limit is 65 dBA and the commercial nighttime limit is 60 dBA.

#### Construction Phase

The noise ordinance also regulates construction and demolition noise. Section 13.40.070, Prohibited Acts, states: "The following acts and the causing or permitting thereof are declared to be in violation of this chapter:"

*Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or 8:00 p.m. and 9:00 a.m. on weekends or holidays such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the NCO. (This section shall not apply to the use of domestic power tools as specified in Section 13.40.070(B) (11).)*

Project construction could involve the simultaneous operation of various tools and equipment which could result in significant noise impacts. Impact III-K-2, which is identified above in the 1987 LRDP EIR, as amended discussion, also identifies potential construction noise impacts. In an effort to reduce any potential impacts related

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
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to construction noise, Mitigation Measure III-K-1 and III-K-2 from the 1987 LRDP EIR, as amended would be implemented as part of the project. This measure is identified above in the LRDP EIR discussion. In addition, the following project-specific measure would be implemented:

**USB Mitigation Measure NOISE-1:**

- Construction shall be limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and no construction will be permitted to occur on the weekends or holidays.
- Construction equipment and trucks shall use best available noise control devices to avoid unacceptable noise levels.
- Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum sound levels generated by stationary equipment at affected properties will not exceed those listed in the following schedule:

Maximum sound levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	R-1, R-2 Residential (dBA)	R-3 and Above Multi-Family Residential (dBA)	Commercial/ Industrial (dBA)
Daily, 7:00 a.m. to 7:00 p.m.	60	65	70
Weekends, 9:00 a.m. to 8:00 p.m. and legal holidays	50	55	60

Operational Phase

Regarding operation of the new facility following construction, Impact III-K-1, which is identified above in the LRDP EIR discussion, continued operation of LBNL will result in noise levels that could exceed applicable noise policies. While the project could cause an increase in ambient noise levels, it would not result in noise levels in excess of the applicable City of Berkeley Municipal Code thresholds, which are identified above at the beginning of this response. Mitigation Measure III-K-1, which is also explained above and which would be implemented as part of the project, would reduce potential impacts to a less-than-significant level. Based on the implementation of the mitigation measures specified above, no significant noise impacts would occur during construction or operation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X	
<p>The foundation of the proposed project would most likely consist of concrete spread footings, which are typically used to prevent structures from sinking into the ground.<sup>60</sup> The spread footings would be supported by tiedown anchors to resist uplift, or by drilled piers interconnected with tie beams. Pile driving, which could cause substantial ground borne vibration, will not be required for construction of the foundation or the upper portions of the building. While other construction methods used may cause minor vibration, these levels would not be substantial enough to adversely affect people in adjacent buildings. As a result, a less-than-significant impact is expected.</p>					
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X	
<p>After construction of the proposed project is complete, the facility would not generate noise apart from that generated by HVAC equipment, which would not create a substantial permanent increase in ambient noise levels. There would also be a Public Address (PA) and Intercom System located within the building structure. The system would include an amplifier with speakers located throughout the building.<sup>61</sup> The PA system would only be used during the building's operating hours when the largest number of patrons would be present. Because the system would only be used inside the building during normal operating hours, a significant impact is not anticipated. As a result, the project's impact on ambient noise levels would be less than significant.</p>					
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X			
Refer to discussion in 11(a).					

<sup>60</sup> Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006, Page 86

<sup>61</sup> Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006, Page 104

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?					X
The proposed project would not be located within two miles of a public airport or within an airport land use plan. As a result, the project would not be impacted by excessive airport noise. <sup>62</sup>					
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?					X
The proposed project is not located within the vicinity of a private airstrip. As a result, the project would not be impacted by excessive airport noise. <sup>63</sup>					
g) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. As explained in the checklist, with the implementation of the project-specific mitigation measure, and mitigation measures identified in the LRDP EIR, as amended, the proposed project would not exceed the Standards of Significance identified in the LRDP EIR, as amended.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures:  
Demolition/construction-period noise levels may exceed standards established in the City of Berkeley Noise Ordinance.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures III-K-1 and III-K-2.

USB Project-Specific Mitigation Measures: NOISE-1.

<sup>62</sup> Google Map. <http://www.google.com/maphp?hl=en&tab=wl&q=>. Accessed August 2, 2006.

<sup>63</sup> Google Map. <http://www.google.com/maphp?hl=en&tab=wl&q=>. Accessed August 2, 2006.

**12. POPULATION AND HOUSING****LRDP EIR, as amended:**

The following relevant impacts to population and housing have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-H-1: Population growth associated with continuation of existing LBNL activities, including continued implementation of the 1987 LRDP, is not expected to have a significant adverse impact.

Impact III-H-2: Population growth associated with continuation of existing activities, including renewal of the contract term, could create an impact on the availability of both owned and rented housing.

Because no significant impacts were identified in the LRDP EIR, as amended, no mitigation measures were identified.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>12. POPULATION AND HOUSING –</b> Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X	
Approximately 15 staff members are projected to work on a full-time basis at the USB. <sup>64</sup> According to LBNL, these 15 staff would be relocated from adjacent buildings. <sup>65</sup> The USB is not expected to result in a substantial increase in the number of visitors to LBNL, as those likely to visit the USB most likely already visit other LBNL facilities for specialized work and research purposes. As a result, the new work space would not directly contribute to a substantial increase in the campus' or local community's population. In addition, while the project would involve improvements to infrastructure on the LBNL campus (e.g. roadway widening), the nature of the improvements are such that they would not result in substantial, indirect population growth. Accordingly, less than significant impacts related to population inducement would occur.					
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?					X

<sup>64</sup> Personal email communication with Joe Harkins, LBNL Project Manager, October 2, 2006.

<sup>65</sup> Personal email communication with Joe Harkins, LBNL Project Manager, September 2, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
The proposed project would not result in the displacement of any existing housing as no housing exists on-site. As a result, no impact to existing housing would occur.					
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?					X
The proposed project would not require the displacement of any people which could necessitate the construction of replacement housing in another location. As a result, no impact would occur.					
d) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed a population and housing standard of significance established by the programmatic 1987 LRDP EIR, as amended. Population and housing impacts would be less than significant and no project-specific mitigation measures would be required.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None. No significant impacts from increases in the number of LBNL employees would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None.

## 13. PUBLIC SERVICES

### LRDP EIR, as amended:

The following impacts to public services have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-L-1: The construction of additional facilities and any increased population would not cause increased impacts on local police and fire protection services.

Impact III-L-2: The construction of additional facilities and any increase in population according to the 1987 LRDP would not cause significant impacts on local school systems.

Impact III-L-3: Development proposed under the 1987 LBNL LRDP would increase demand for recreational services. This increase is not considered significant.

No mitigation measures were identified by the programmatic LRDP EIR, as amended. All impacts were found to be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>13. PUBLIC SERVICES:</b> a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
Fire protection?				X	
<p>According to Impact III-L-1 in the 1987 LRDP EIR, as amended, additional facilities and population at LBNL would cause increased impacts on fire protection services. However, this impacts was determined to be less than significant.</p> <p>At peak occupancy the USB would accommodate 85 people including approximately 70 visitors and 15 full-time staff. Full-time USB staff would be relocated from existing buildings on the LBNL campus, which would not result in an increase in the full-time employee population. Similarly, the USB is not expected to result in a substantial increase in the number of visitors to the LBNL campus, as those likely to visit the USB most likely already visit other LBNL facilities for specialized work and research related purposes.</p> <p>Because the project would not substantially increase the full time or visitor population of LBNL and based on the conclusion that Impact III-L-1, in the 1987 LRDP EIR, as amended would be less than significant, no new or expanded fire services would be required. A less than significant impact would occur.</p>					
Police protection?				X	
Please refer to response 13(a)(i) above. The same conclusion applies to police services.					
Schools?					X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
According to Impact III-L-2, which is identified above under the LRDP EIR discussion, any increased population associated with the 1987 LRDP would not cause significant impacts on local school systems. This is supported by the fact that in the case of this project, the approximately 85 people that would occupy the USB at peak capacity would not represent a new population in the area. The approximately 15 staff members would be relocated from adjacent buildings at LBNL and those likely to visit the USB probably already visit the LBNL campus. As such, the project would have no impact on the area's population or its schools. <sup>66</sup>					
Parks?					X
The proposed project would not increase LBNL's full-time staff or part-time (visitor) population. As noted above, the approximately 15 staff members that would be working at the proposed facility would be relocated from adjacent buildings at LBNL. People likely to visit the USB probably already visit the LBNL campus for work/research purposes. Thus, the proposed project would not result in the need for new or expanded parks and no impact would be anticipated.					
Other public facilities?					X
The approximately 15 full-time staff and 70 visitors that would occupy the USB at peak capacity would not create the need for the construction of other public facilities. Full-time staff would be would be relocated from adjacent buildings at LBNL and they would not represent an increase in LBNL's employee population. The number of visitors to USB would not represent a substantial increase above and beyond the number of people already visiting LBNL. As such, this would not necessitate the construction of other public facilities would not be necessary and a less-than-significant impact would occur.					
b) Exceed an applicable LRDP or Program EIR standard of significance?					X
The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed a public services standard of significance established by the programmatic 1987 LRDP EIR, as amended. Public service impacts would be less than significant and no project-specific mitigation measures would be required.					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

No significant impacts would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None required.

<sup>66</sup> DSEIR for LBNL. Public Services Chapter. Page III-L-5. *Discussion of Impact III-L-2*. April 1992

**14. RECREATION**

The following impacts to recreation have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-L-3: Development proposed under the 1987 LBNL LRDP would increase demand for recreational services. This increase is not considered significant.

No mitigation measures were identified by the programmatic LRDP EIR, as amended. All impacts were found to be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>14. RECREATION –</b>					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X	
As explained above in response to 13 (a), the project would not have a significant impact on neighborhood or regional parks. Similarly, the project population would not place an increased demand on recreational facilities such that substantial physical deterioration would occur or be accelerated. Furthermore, as stated in Impact III-L-3, development proposed under the 1987 LBNL LRDP would increase demand for recreational services, however this increase is not considered significant. As a result, the project would have a less-than-significant impact on neighborhood and regional parks, and other recreational facilities.					
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?					X
The project does not include the construction of any recreational facilities or require the expansion of any existing facilities. Thus, no impacts would occur.					
c) Exceed an applicable LRDP or Program EIR standard of significance?					X
The LRDP EIR, as amended, does not specifically analyze the impact of anticipated development on existing neighborhood parks and regional parks or other recreational facilities, and therefore does not include standards of significance in relation to such resources.					

**Summary of Impacts and Mitigation Measures:**

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None. No significant impacts would result from the Proposed Project.

USB Project-Specific Mitigation Measures: None.

## **15. TRANSPORTATION/TRAFFIC**

### **LRDP EIR, as amended:**

The following relevant impacts to transportation and traffic have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-I-1: Incremental increases in traffic are expected due to projected increases in the number of employees and visitors at LBNL.

Impact III-I-2: The ratio of parking spaces to LBNL employees will decrease during the LRDP implementation period.

As a result of anticipated impacts to transportation and traffic, the following mitigation measures, adopted as part of the LRDP EIR, as amended, are already required for the Proposed Project, and are therefore incorporated as part of the Proposed Project's description:

Mitigation Measure III-I-1a: Discourage single-occupant-vehicle use and encourage the use of other transportation options. LBNL will continue to implement its Transportation System Management (TSM) Program. The specific features of this program include:

- Establishing transportation modal-split goals for LBNL which will result in a reduction in the number and percentage of single-occupant automobiles being driven to and from LBNL;
- Assigning a transportation planner to coordinate the design and implementation of TSM programs;
- Promoting carpools by creating a carpool matching program;
- Providing preferential carpool parking;
- Developing a vanpooling program through funding support of Berkeley TRIPS;
- Permitting staggered (flex-time) work hours;
- Developing an annual monitoring program to evaluate the programs in relation to established goals and identify new elements which should be added to the program;
- Promoting the TSM programs by giving orientation briefings to new employees, providing information aids to be distributed to LBNL employees, organizing an information center, and selling transit tickets on-site at LBNL;
- Reviewing LBNL shuttle service and transit interface facilities; and
- Reviewing bicycle routes and storage facilities for improvements.

**Mitigation Measure III-I-1b:** LBNL will conduct bi-annual peak hour traffic counts in and around LBNL. In particular, the bi-annual count will include the Gayley Road corridor between Hearst Avenue and Bancroft/Piedmont.

**Mitigation Measure III-I-1c:** If and at such time as the level of service at intersections along the Gayley Road corridor reaches “D,” a review of necessary improvements will be conducted with UC Berkeley.

**Mitigation Measure III-I-1d:** LBNL will pay for its fair share of allowable and necessary signalization improvements along the Gayley Road corridor proportional to LBNL’s share of increases in traffic.

**Mitigation Measure III-I-1e:** Details of the Gayley Road corridor improvements, including environmental assessment of the improvements, will be reviewed at the time the thresholds are reached.

**Mitigation Measure III-I-2:** LBNL will continue to implement and monitor the implementation of its Transportation System Management Program.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>15. TRANSPORTATION/TRAFFIC –</b> Would the project:					
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e. result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?		X			
<p><u><b>Demolition and Construction Phase</b></u></p> <p>Construction phase traffic volumes are discussed in relation to the demolition of Building 10 and the construction of the Users Support Building. The demolition and construction phases would not overlap in time, therefore total project trip estimates discussed below would not occur simultaneously.</p> <p>According to LBNL estimates, 28 daily round trips would be made to and from the site during the demolition phase by a combination of contractor vehicles and dumpster trucks.<sup>67</sup> The estimates includes 20 contractor vehicle trips (10 vehicles each making a round-trip) and 3.2 truck trips (1.6 vehicles each making a round trip) each work day. For the 3.2 truck trips, this analysis used a Passenger Car Equivalent (PCE) factor of 2.5, per the 2000 Highway Capacity Manual (HCM), because trucks are much larger than typical passenger vehicles and accelerate, decelerate, and generally travel slower than passenger vehicles.<sup>68</sup></p> <p>During construction of the USB, LBNL estimates that there would be 51 daily round trips made to and from the site by a combination of contractor vehicles and delivery trucks.<sup>69</sup> The estimate includes 40 contractor vehicle</p>					

<sup>67</sup> Joe Harkins, LBNL, Personal Communication via email, September 2, 2006.

<sup>68</sup> Assumes 20 contractor vehicle trips + 3.2 dumpster truck trips \* 2.5 PCE = 28 trips.

<sup>69</sup> Joe Harkins, LBNL, Personal Communication via email, September 2, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>trips (20 vehicles each making a round-trip) and 5.6 delivery truck trips (2.8 vehicles each making a round trip) to the site each work day. The PCE factor of 2.5 was applied to the delivery truck trips.<sup>70</sup></p> <p>Traffic entering and leaving LBNL was counted at each of the three access gates on Thursday, October 29, 2003. The counts indicated that daily vehicle trip generation is approximately 5,700 (split roughly evenly between inbound and outbound traffic). Although specific volumes were not counted for the Cyclotron Road/Blackberry Gate, which is the gate most likely to be used by the contractor vehicles for this project, it is assumed that this gate captured approximately one-third of the 5,700 daily trips (1,900 trips).</p> <p>Assuming that all demolition and construction vehicles will use the Cyclotron Road gate, the estimated 28 and 51 daily trips during the demolition and construction phases would represent a 1 percent and 2 percent increase in traffic loads, respectively, when compared to the 1,900 daily trip estimate. Implementation of Mitigation Measure TRA-1 would ensure that these increases, although relatively small and temporary in nature, would not cause significant impacts to existing traffic operations.</p> <p><b>USB Mitigation Measure TRA-1:</b> The prime contractor shall prepare a Construction Traffic Management Plan which will include the following elements:</p> <ul style="list-style-type: none"> <li>• A provision that construction trips to and from the existing Building 10 or future USB site will be made outside the commuter hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on all weekdays.</li> <li>• Proposed truck routes to be used, consistent with the City of Berkeley truck route map.</li> <li>• Proposed contractor parking (number of spaces and planned locations).</li> <li>• Proposed construction equipment and materials staging area, demonstrating minimal conflicts with circulation patterns.</li> <li>• Expected traffic detours needed, planned duration of each, and traffic control plans for each.</li> <li>• LBNL would review the Construction Traffic Management Plan prior to construction and address any deficiencies in the plan that have the potential to result in significant traffic impacts.</li> </ul> <p><u>Operational Phase</u></p> <p>With respect to vehicle trips generated by proposed project staff, it is not expected that there would be a substantial increase in personal vehicle trips. The proposed project would not result the hiring of additional staff, which would have the potential to increase vehicle trips; staff would be relocated from adjacent facilities. At this time, there are no confirmed plans for filling the spaces that would be vacated, which could lead to an increase in vehicle trips.</p> <p>With respect to facility visitors staying at locations off-site, it is not expected that the project would result in a substantial increase in the number of visitors to the LBNL campus. People likely to visit the USB probably</p>					

<sup>70</sup> Assumes 40 contractor vehicle trips + 5.6 delivery truck trips \* 2.5 PCE = 51 trips.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
already do so for work or research functions. As a result, it is not expected that visitor trips to the USB would result in a substantial increase in traffic volumes in relation to existing volumes and road way capacity. Thus, no significant impact would occur.					
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?		X			
<p><u>Demolition and Construction Phases</u></p> <p>As stated above in response to criteria a), the demolition of Building 10 and the subsequent construction of the USB would result in the generation of 28 and 51 vehicle trips per week day, respectively. As part of the cumulative analysis, these trips must be considered in relation to the trip volume increases associated with the construction of other projects.</p> <p>There are several projects on the LBNL campus, the UC Berkeley campus, and within the City of Berkeley that could occur simultaneously with the demolition of Building 10, the construction of the USB, or both. Two projects at LBNL, for example, that could be constructed simultaneously with the USB include the Helios and Computational Research and Theory (CRT) facilities. Similarly, overlapping UC Berkeley projects that could add to cumulative traffic volumes include, but are not necessarily limited to, the CITRUS Project, the Tien Center, and the Integrated Projects.</p> <p>Although not all project schedules, estimated traffic loads, and access routes for these cumulative projects are known, the combination of USB trips with cumulative project trips could have significant impacts on City of Berkeley operation standards at intersections and along roadway segments in the vicinity of LBNL. However, through the implementation of USB Mitigation Measure TRA-1, USB trips during both the demolition and construction phases would not contribute to AM or PM peak hour volumes and therefore would not result in a significant cumulative impact.</p> <p>Based on the implementation of this mitigation measure, the USB project would not contribute to a significant cumulative impact on traffic operations or roadway capacity during peak hours. Outside peak hours, reduced traffic volumes in relation to applicable intersection and roadway LOS standards are such that project truck trips would not result in a significant cumulative impact.</p> <p><u>Operation Phase</u></p> <p>As stated above in response to criteria a) the operation of the USB would not result in the hiring of additional staff. The future occupants of the USB would be relocated from existing facilities on the LBNL campus, thereby avoiding an increase in the permanent personnel population, which could otherwise cause an increase in daily vehicle trips to the site. In addition to approximately 15 full-time staff, the USB would accommodate approximately 70 visitors at peak capacity. Those likely to visit the USB most likely already visit other LBNL</p>					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<p>facilities for specialized work and research related purposes. As result, the project is not expected to result in a substantial increase in the LBNL visitor population.</p> <p>Visitors to the USB may use private automobiles to arrive at the USB, however due to the limited parking on-site and the availability of other means of transportation such as taxis or the free LBNL shuttle, it is not expected that visitor traffic would result in a substantial traffic volume increase. As a result, the project would not contribute to significant cumulative impact on traffic volumes or operations during the operational phase.</p>					
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?					X
<p>The proposed project does not include any activities that could affect air traffic patterns. Thus, no impacts would occur.</p>					
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?					X
<p>The existing roadway that traverses the proposed project site would be widened in order to accommodate two lanes of traffic. The modification of this road would enhance the efficiency and safety of the existing road. Furthermore, the only traffic that would utilize this roadway would be emergency response vehicle and automobiles accessing the parking lot near Building 80 to the north of the project site. This roadway is not a major LBNL arterial and as such would not be subject to large traffic volumes. The roadway would be designed to serve its intended use as an access-way to existing parking and as an emergency access-way to adjacent structures and would not include hazardous or incompatible uses. The project would not otherwise include any modifications to LBNL's roadway network. For these reasons, no impacts would occur.</p>					
e) Result in inadequate emergency access?					X
<p>The proposed project would not interfere with emergency access to LBNL or the proposed project site. Emergency vehicles accessing destinations on the LBNL campus would continue to use existing emergency routes during construction and operation of the USB. Emergency access to the proposed project site would be provided from the southeast where Lawrence Road connects to the roadway that traverses the proposed project site. As previously mentioned, this roadway would be widened, thus providing better emergency access to the project site, the ALS building, Building 80 and Building 2. Emergency access on this roadway would be maintained during the widening process according to the construction emergency egress plan for Building 10 and the USB. As a result, no impacts related to emergency access are anticipated.</p>					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Result in inadequate parking capacity?				X	
<p>The proposed project would add approximately 14 single car, 2 handicap and 1 van pool parking spaces.<sup>71</sup> Currently, there are approximately 30 parking spaces available for parking in the lot immediately north of the proposed project site. Because the project would not cause an increase in LBNL's employee or visitor population, it would not result in a need for increased parking. As previously stated, approximately 17 parking spaces would be included in this project and there are a number of other parking lots in the general vicinity of the proposed project site that staff and visitors to the project site could use. As a result, the project would have a less-than-significant impact on parking capacity.</p>					
g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?					X
<p>The 1987 LRDP EIR, as amended Mitigation Measure III-I-1a, which is explained above in the LRDP EIR discussion, requires the implementation of a Transportation System Management Plan (TSMP). The TSMP contains several polices designed to encourage the use of alternative transportation to, from, and within the LBNL campus.</p> <p>The proposed project encourages alternative forms of transportation other than personal vehicles in that it does not include parking for the entire facility. The USB would accommodate 85 people at peak capacity; however it would provide only 17 spaces. In addition, the project site is located close to the route for the LBNL on-site shuttle. LBNL employees and visitors are allowed to ride the shuttle for free. As a result, the proposed project would be consistent with Mitigation Measure III-I-2, and no impacts would occur.</p>					
h) Exceed an applicable LRDP or Program EIR standard of significance?					X
<p>The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed a traffic or transportation standard of significance established by the programmatic 1987 LRDP EIR, as amended due to the inclusion of the programmatic mitigation measures previously discussed and two project-specific mitigation measures.</p>					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures:  
Demolition/construction-period traffic, by itself and in combination with other (cumulative) projects could result in significant impacts to traffic operations along roadway segments and at intersections in the City of Berkeley.

<sup>71</sup> Personal email communication with Joe Harkins of LBNL, September 1, 2006.

The Proposed Project would incorporate LRDP EIR, as amended, Mitigation Measures III-I-a, III-I-b, III-I-c, III-I-d, III-I-e, and III-I-2.

USB Project-Specific Mitigation Measures: TRA-1.

## 16. UTILITIES AND SERVICE SYSTEMS

### LRDP EIR, as amended:

The following relevant impacts to utilities and service systems have been anticipated and analyzed pursuant to CEQA, as part of the programmatic LRDP EIR, as amended, from which this analysis is tiered:

Impact III-M-1: Projected development according to the 1987 LRDP may create demands with regard to existing wastewater and sanitary sewer systems.

Impact III-M-2: Development proposed under the 1987 LBNL LRDP would increase the demand for domestic water. This demand is well within the capacity of the existing ties to EBMUD and the LBNL water distribution system. This demand is not considered significant.

Impact III-M-3: Development proposed under the 1987 LBNL LRDP would increase the usage of natural gas. The projected usage is within the capacity of the existing PG&E and LBNL systems... This increased usage is not considered significant.

Impact III-M-5: Development proposed under the 1987 LBNL LRDP would increase the usage of electrical power. PG&E has the capacity to supply this power.

This increased usage is not considered significant. Cumulative Impacts: Cumulative development at and in the vicinity of LBNL is not expected to result in adverse impacts to utilities and waste services.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>16. UTILITIES AND SERVICE SYSTEMS</b> – Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?					X
The proposed project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board because the USB would consolidate existing functions into a single building, without adding additional sewer loads above and beyond present volumes. <sup>72</sup> Thus, no impact would occur.					

<sup>72</sup> Personal email communication from Steve Blair of LBNL. Received by Justin Kosta, Design, Community, and Environment, September 20,

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?					X
<p>An existing 4-inch sanitary sewer line located between Building 6 and Building 80 presently serves the existing Building 10. As part of the proposed project, a new 4-inch sanitary sewer riser would be connected to the existing 4-inch sanitary sewer line. Sewage from the proposed project would discharge to this existing sanitary sewer. Another sanitary sewer line (10-inch) is located between Building 37 and Building 6. This line would be considered as a second point of connection for sanitary sewer discharge.<sup>73</sup> According to LBNL, sanitary sewer discharge from the proposed project would flow unconstrained to the Hearst Outfall, which is part of the overall campus sewer system.<sup>74</sup></p> <p>As stated in (a) above, the proposed project would not result in increased sewer loads over existing conditions, thus the construction of new wastewater treatment facilities or the expansion of existing facilities would not be necessary. As a result, no impact would occur.</p>					
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?					X
<p>Existing rainwater leaders collect stormwater drainage from the existing Building 10 on the west (4-inch), south (6-inch) and east (4-inch) and discharge to the LBNL campus storm water drainage system. The proposed facility's infrastructure would collect and discharge storm drainage to these existing points of connection.<sup>75</sup> The project would not result in an appreciable change in storm water run off volumes.<sup>76</sup> As a result, new or expanded stormwater infrastructure would not be required and no impact would occur.</p>					

2006.

<sup>73</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006. Page 72<sup>74</sup> Personal Email Communication from Joe Harkins of LBNL, October 4, 2006.<sup>75</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006, Page 72<sup>76</sup> Personal email communication from Joe Harkins of LBNL, October 4, 2006.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?					X
<p>The proposed project would result in the need for chilled water, treated water, low conductivity water and heated water.<sup>77</sup> This water would be provided through closed loop-systems integrated into the building's plumbing. LBNL estimates that 2,000-gallons of water would be required for the start up of the internal, closed-loop systems.</p> <p>Impact III-M-2 from the 1997 SEIR, which is identified above in the LRDP EIR discussion, states that development occurring under the LRDP EIR is well within the capacity of existing ties to EBMUD and the LBNL water distribution system.</p> <p>In addition, Department of Energy (DOE) owns and maintains three 200,000-gallon storage tanks on site for emergency supply in the event of interruption of EBMUD's service.</p> <p>Therefore, adequate waters supplies exist to meet the initial 2,000-gallon demand necessary for start up of the closed-loop systems. Because the project would not increase the overall population on the LBNL campus, it would not result in an increased demand for a potable water supply in the long-term.</p> <p>As a result, the project would result in a less-than-significant impact to water supplies.</p>					
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?					X
The discussion in (a) satisfies (e).					

<sup>77</sup> Draft Conceptual Design Report for the LBNL User Support Building. M + W Zander, July 14, 2006, Page 73-74

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?					X
<p>According to the 1997 SEIR Addendum, Richmond Sanitary Service (RSS) was awarded the contract to collect LBNL's garbage and recyclable waste in 1995. RSS took this waste to its own recycling facility in Richmond. RSS also picked up LBNL's solid waste and hauled it to the Richmond Sanitary Landfill in Richmond, which was expected to reach capacity and close sometime in 2006. At that point RSS would start taking LBNL's waste to Potrero Hills Landfill in Solano County, which has approximately 50 years of excess capacity.<sup>78</sup></p> <p>The waste generated by the proposed project would be collected and disposed of by LBNL's solid waste contractor, the RSS. Whether solid waste from LBNL is transported to the Richmond Sanitary Landfill or if services have been transferred to the Potrero Hills Landfill, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. As such, no impacts would occur.</p>					
g) Comply with applicable federal, State, and local statutes and regulations related to solid waste?					X
<p>As a government-owned facility operated through contract by the UC, LBNL complies with the waste minimization reporting requirements of the DOE, the State of California, the UC and LBNL itself.<sup>79</sup> Adherence to these reporting requirements would ensure compliance with federal, State, and local statutes related to solid waste reduction. Thus, no impacts are anticipated.</p>					
h) Exceed an applicable LRDP or Program EIR standard of significance?					X
<p>The applicable standards of significance from the LRDP Program EIR, as amended, are adequately addressed through the responses included in the checklist above. The proposed project would not exceed a public utility standard of significance established by the programmatic 1987 LRDP EIR, as amended. Public utility impacts would be less than significant and no project-specific mitigation measures would be required.</p>					

### Summary of Impacts and Mitigation Measures:

Potentially significant impacts not mitigated by LRDP EIR, as amended, mitigation measures: None.

The Proposed Project would not incorporate any LRDP EIR, as amended, mitigation measures. As explained in the analysis above, the project would not result in any impacts to utilities and service systems and would therefore not require any mitigation.

<sup>78</sup> Personal email communication with William Collins of LBNL, September 20, 2006.

<sup>79</sup> DSEIR for LBNL. Hazardous Materials Chapter. Page IV-A-1. April 1992

USB Project-Specific Mitigation Measures: None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
<b>17. MANDATORY FINDINGS OF SIGNIFICANCE –</b>					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X			
The proposed project was not found to have any biological or cultural resources-related impacts that could not be mitigated to a less-than-significant level through the implementation of measures specified in the 1987 LRDP EIR and project-specific mitigation measures.					
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X			
The project would result in potentially significant cumulative impacts to traffic volumes and operations; however project-specific mitigation measures recommended in the traffic section of this checklist would reduce potential impacts to a less-than-significant level.					
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X			

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
The proposed project would not have any environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly, that could not be mitigated to a less-than-significant level. As such, no significant impacts are anticipated.					

### 18. Fish and Game Determination

Based on the information above, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

☐ Yes (Certificate of Fee Exemption)

☒ No (Pay fee)

## VI. CUMULATIVE ANALYSIS

### ***PROJECTS IN VICINITY OF PROPOSED PROJECT***

Planned, pending, and/or reasonably foreseeable projects in the area of the proposed project include:

The Computational Research and Theory (CRT) Building: As currently projected, the CRT building would likely be a six-story, 65,000-gsf building constructed near the Blackberry Gate entrance to the Lab's main site. It would provide high-end computing floor space and accompanying office space to support the Lab's National Energy Research Scientific Computing (NERSC) Center, which is currently operating within the confines of an off-leased site. CEQA review would be conducted and an appropriate document circulated for public review in approximately mid-2007. Construction of the project would occur subsequent to environmental review.

The Helios Research Facility: As currently projected, the Helios Research Facility building would likely be proposed as a four-story, 100,000-gsf laboratory building constructed just south of existing LBNL buildings 66 and 62. The goal of the Helios Project is to accelerate the development of renewable and sustainable sources of energy using sunlight by developing fundamentally new and optimized materials for use in collectors, efficient processing steps, and energy handling. CEQA and NEPA review would be conducted and appropriate documents circulated for public review in approximately fall/winter 2008. Construction of the project would occur subsequent to environmental review.

The Guest House: The proposed three-story, approximately 25,000 gross square foot (gsf) Guest House would hold up to 70 beds for visiting researchers and other guests of LBNL. The site designated for the Guest House is near the center of the Laboratory site, west and southwest of Building 2 and on the site of the demolished Building 29 and Trailer 29D, and existing Trailers 29A, 29B, and 29C. An Initial Study/Negative Declaration is expected to be prepared and circulated in winter 2006/2007. Construction would take place between mid-2007 and late-2008. The Guest House would be constructed in close proximity to the Molecular Foundry, the Lab's largest user facility. It would use existing utilities in the vicinity.

The Bevatron Project: In the winter 2006/2007, the UC Regents are likely to certify a Final EIR for the demolition and removal of the Building 51 complex, including the Bevatron a retired particle accelerator and the concrete blocks and building shell surrounding it. This Final EIR would be tiered from the 1987 LRDP EIR, as amended. The Bevatron removal would likely take place from approximately 2007 to 2012. The Bevatron DEIR identified significant and unavoidable impacts in the area of cultural resources.

LBNL Long Range Development Plan: A foreseeable proposal to design and implement a new Long Range Development Plan (LRDP) for LBNL; this LRDP would guide LBNL's development for approximately 20 years (through 2026). The proposed new LRDP is anticipated to identify new population and space growth projections for LBNL, although growth would be projected to occur at approximately the same rate as has been experienced at LBNL during its recent history (approximately 1.3 percent per year). The main differences between the current 1987 LRDP and the upcoming proposed new 2006 LRDP would be realized during the later phases of the planning period, sometime after 2010. An environmental analysis of this proposal is currently underway and a decision regarding the plan is expected to occur in mid-2007.

South Campus Integrated Projects: In May 2006, UC Berkeley published a Tiered, Focused Draft EIR for the Southeast Campus Integrated Projects (SCIP). The SCIP projects include seismic and program improvements at the California Memorial Stadium, including a 158,000-gsf athletic training center; construction of a parking structure and sports field at the current site of Maxwell Family Field; construction of a 186,000-gsf building linking the Law and Business Schools, landscape improvements at the Southeast Campus and Piedmont Avenue; interior improvements at selected buildings at the School of Law and the Haas Business School; and renovation and restoration of four historic houses on Piedmont Avenue. The SCIP DEIR identified significant and unavoidable impacts in the areas of aesthetics, cultural resources, geology, noise, traffic, and utilities and service systems.

Northeast Quadrant Science and Safety Projects: The NEQSS project would construct approximately 324,400 gsf of buildings (demolition of existing 100,000 gsf, construction of 430,000 gsf), 140 parking spaces and add approximately 400 full-time equivalent (FTE) employees to the northeastern quadrant of the UC Berkeley campus. The environmental review for these projects has been completed and they are currently under construction.

City of Berkeley Development: The 2001 City of Berkeley General Plan allows for steady growth and development, but given a lack of substantial undeveloped space in the City, at a relatively even pace with an emphasis on in-fill development. Projections include a population increase of approximately 7,000 people (a roughly six percent increase), approximately 3,300 new household units (a roughly eight percent increase), and approximately 3,700 new jobs (a roughly five percent increase) by the year 2020.

### ***CUMULATIVE IMPACT AREAS***

Based on the analysis provided above, it was concluded that the User Support Building (USB project) site does not include or is not within the immediate vicinity of any agricultural or mineral resources. As a result, the proposed USB project would not reasonably be expected to result in significant cumulative impacts to such resources.

### **Aesthetics/Visual Quality**

The proposed USB project, in combination with the other cumulative projects list above, would contribute to an overall visual change to the LBNL and UC campuses and nearby areas in the City of Berkeley. The primary visual change would be an increase in the amount of urban uses (i.e residential, commercial, institutional) in areas that are currently undeveloped or developed at intensities below what they would be under future projects.

As discussed in the aesthetics section of the checklist above, the proposed USB project would take place on an infill site that is currently occupied by Building 10 and surrounded by existing LBNL buildings and roadways. Although larger in scale and different in appearance than the existing Building 10, the proposed USB project would construct a new building where one currently exists and would therefore represent a continuation of uses on the site and within the larger visual context. As a result, the project would not introduce a significant visual change to the site or substantially degrade the visual quality of the surroundings. Further, the project would not affect a scenic highway corridor or result in a substantial amount of light or glare.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative visual impacts associated with LBNL growth. The Proposed Project would incorporate LRDP EIR, as amended, mitigation measures designed to safeguard the

aesthetic character of the University-owned, LBNL-managed hillside area. Therefore, no significant cumulative impact to aesthetic or visual resources is expected.

### **Air Quality**

The proposed USB project would not result in any individually significant air impacts, nor would it result in any significant cumulative air quality impacts. It would be consistent with the LBNL LRDP, and would neither conflict with nor obstruct implementation of the *Bay Area 2005 Ozone Strategy*, which is the most recently approved regional Clean Air Plan.

The proposed USB project would not violate any applicable air quality standard or contribute substantially to any existing or projected air quality violations. It would not result in a cumulatively considerable net increase in any criteria pollutant, for which the project region is in non-attainment (federal and State ozone and State PM<sub>10</sub> and PM<sub>2.5</sub>).

No construction or operational emissions—either criteria pollutants or toxic air contaminants—would be expected to exceed any regional, state, or federal thresholds of significance. As operational details and estimates are further developed, the USB project would undergo review and permitting processes from BAAQMD for operational emissions. BAAQMD, through its discretionary permitting authority, would require implementation of feasible measures to further reduce construction and operational air impacts and prohibit significant health risks.

The proposed USB project would not create or substantially contribute to a significant Toxic Air Contaminant (TAC) impact. Project emissions of TACs are expected to be very low in general and negligible at the distance of the nearest sensitive receptors, which are residential areas in the case of the USB project. In addition, the Proposed Project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative air impacts associated with LBNL growth.

Therefore, the USB project would not result in a significant, cumulative air quality impact.

### **Biological Resources**

As discussed in the project description and the biology section of the checklist, the proposed USB project would take place on a site that is already developed and heavily disturbed. The site is defined by Building 10 and surrounding hardscape features, including a roadway that transects the site and equipment loading and staging areas. As concluded in the biology section, no special status plant or animal species or supporting habitat exist on the project site. Further, the site does not contain any wetlands, riparian habitats, wildlife movement corridors, or nursery sites, and it is not located within a resource management plan area.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative biological resources impacts associated with LBNL growth. As a result, the proposed USB project would not result in any significant impacts to biological resources, and therefore would not contribute to significant cumulative impacts.

### **Cultural Resources**

As explained in the cultural resources analysis above, the proposed USB project would result in the demolition of Building 10, but not any other structures. Constructed in 1944, Building 10 is associated with historic developments regarding atomic particle acceleration. However, the

historical resources evaluation determined that Building 10 was not eligible for inclusion in the California or National Register of Historical Places. Based on this determination, the proposed USB project and the demolition of Building 10 would not contribute to a significant cumulative impact on historically significant architectural resources. Further, the proposed USB project would not affect any archaeological or paleontological resources, or human remains, and therefore would not contribute to any cumulative impacts on such resources.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative historical resources impacts associated with LBNL growth.

### **Geology, Soils and Seismicity**

Geological and seismic impacts are typically site-specific and do not result in cumulative impacts. However, the proposed USB project, in combination with the other cumulative projects listed above, would expose a greater number of people to risk associated with regional seismic events. An increased number of people would be occupying more dwelling units, offices, and educational facilities that would be subject to partial or complete failure during a seismic event. However, as the Proposed Project and other projects are constructed, adherence to State requirements such as the Uniform Building Code would ensure structural safety to the maximum extent feasible. This would reduce potential cumulative impacts related to seismic safety to a less-than-significant level.

In addition, the proposed USB project, in combination with other projects, has the potential to contribute to a significant cumulative impact associated with soil erosion. However, because the proposed USB project and the other cumulative projects listed above would incorporate Best Management Practices (BMPs) that reduce erosion to a less than significant level, the project would not have a significant cumulative impact in relation to erosion and the loss of top soil.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative geology, soils, and seismicity impacts associated with LBNL growth. As a result, no significant cumulative geology, soils, or seismicity impacts would be expected to result from the Proposed Project.

### **Hazards and Hazardous Materials**

The proposed USB project, together with other projects identified in the list above, would likely expose an increased number of people to hazards such as hazardous materials spills and exposure to wildland fires. However, project-specific mitigation for the USB project, as well as the local, regional, State and federal regulations such as those that control the production, use and transportation of hazardous materials, would reduce potentially significant project-specific impacts to a less than significant level.

Similarly, as the cumulative projects are developed either on the LBNL or UC campuses or in the City of Berkeley, local, regional, State and federal regulations would apply to this development, thereby reducing the potential for cumulative impacts associated with hazards and hazardous materials to a less-than-significant level.

In addition, the Proposed Project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative hazards and hazardous materials impacts associated with LBNL growth.

Therefore, the Proposed Project would not create any significant cumulative hazards or hazardous materials impacts.

### **Hydrology and Water Quality**

As a result of the proposed USB project and the other cumulative projects listed above, impervious surfaces will increase, as will the amount of pollutants in runoff, thereby impacting surface and groundwater quality. However, cumulative water quality impacts on the LBNL and UC campuses and in the City of Berkeley would be reduced by implementing BMPs in accordance with the National Pollutant Discharge Elimination System (NPDES) programs. Through continued compliance with the NPDES and other Regional Water Quality Control Board (RWQCB) regulations in the region, there would be no significant cumulative hydrology or water quality impacts from the proposed USB project and the other cumulative projects listed above.

In addition, the Proposed Project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative hydrology and water quality impacts associated with LBNL growth.

### **Land Use**

Construction and operation of the proposed USB project would not contribute to land use conflicts as the site and surrounding area are currently developed with LBNL institutional uses in close proximity to each other. When combined with the other cumulative projects listed above, the proposed USB project would not contribute to a significant shift in the character of the LBNL campus or surrounding areas in the City of Berkeley or on the UC campus. Further, the land use section of the checklist above concluded that the project would not divide an established community or conflict with adopted land use or habitat plans or policies. Since the project would not result in a land use impact, the project would not contribute to a cumulative land use impact.

In addition, the USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative land use impacts associated with LBNL growth.

### **Noise**

Construction-related noise effects from the proposed USB project could combine with noise from other construction projects to generate cumulative impacts. However, construction of the proposed USB project and other cumulative projects would be staggered over a period of several years and there would not be a point at which all projects were fully under construction. In addition, the projects are separated physically and by intervening terrain and structures. During the operation phase, the project would not result in an increase in vehicle trips to LBNL and therefore would not contribute to a significant cumulative noise impact resulting from traffic.

In addition, the Proposed Project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative noise impacts associated with LBNL growth. As a result, the project would not result in a significant noise impact.

### **Population and Housing**

As explained in the population and housing section of the checklist above, the proposed project would not increase the full-time staff or part-time visitor population on the LBNL campus. Therefore, the USB project would not induce a substantial growth in local population. Further,

the USB project would not displace any people or conflict with any housing or population projections in the LRDP or any other local planning documents.

The UCB Campus and City of Berkeley projects listed above would induce employment growth and, consequently, housing demand, but this level of demand would not be affected or increased by the USB project.

In addition, the USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative population and housing impacts associated with LBNL growth. Therefore, the Proposed Project would not result in a significant cumulative impact to housing resources or population.

## **Public Services**

As stated above in the discussion of population and housing, the proposed LBNL project would not increase the full or part-time population on the LBNL campus. While other LBNL, UC, or City of Berkeley projects listed above could increase population and thereby increase the demand for public services, the LBNL project would not contribute to this demand and therefore not result in a significant cumulative impact in combination with other projects. The proposed USB project could be adequately served through exiting public services and existing facilities.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative public services impacts associated with LBNL growth. Therefore, no significant cumulative impacts would occur.

## **Recreation**

As stated in the recreation section of the checklist, the proposed USB project would not result in an increased demand on recreational facilities such that new facilities would be required or that existing facilities would be substantially degraded. The other cumulative projects, which may result, in an increased population could increase the demand for and usage of recreational facilities. However, because the proposed USB project would not contribute to this increased demand, it would not result in a significant cumulative impact to recreational resources.

## **Traffic and Circulation**

Construction of the proposed USB project, in combination with the other projects listed above, has the potential to result in significant cumulative impacts to operations of roadway segments and intersections during the AM and PM peak hours. While the full extent of information on all cumulative projects is not known, such as project schedules, truck routes, and staging areas, enough information is known to determine that construction periods for several of these projects could overlap. As a result, the proposed USB project and other projects could simultaneously introduce truck traffic at intersections and along roadway segments in the City of Berkeley that are already experiencing poor operations. The combined effect of this traffic could have a significant impact on the Level of Service (LOS) at an intersection or along an arterial in that a LOS threshold could be exceeded.

However, due to the inclusion of project-specific mitigation for the USB project, trucks trips to the USB site during demolition and construction would not be permitted during the AM or PM

peak hours. As a result, while the USB project would result in additional truck trips, those trips would not contribute to significant cumulative impacts.

Because the project would not result in an increase in the full or part-time population at LBNL, it would not result in an increase in the number of vehicle trips during operation. As a result, the project would not have a significant cumulative impact on traffic operations during the operation phase.

In addition, the Proposed Project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative traffic and circulation impacts associated with LBNL growth.

### **Utilities/Energy**

The proposed project would be constructed on an infill site that is already serviced by potable water supply lines, sanitary waste water systems, storm water drainage systems, and energy supply. While new connections to several of these utilities would be required as part of the USB project, the project itself would not result in a substantial increase on the demand for these service systems. As explained in the population and housing discussion, the project would not increase the full or part-time population of the LBNL campus, which could otherwise trigger an increased demand on potable water supplies, sanitary waste systems, and energy. Similarly, the proposed USB project is not expected to result in an appreciable increase in the amount of storm water leaving the site and would therefore not require the expansion of storm water drainage facilities.

Several of the cumulative projects listed above would be expected to increase demand for regional utilities and energy provision. However, these utilities are managed and augmented by service providers in relation to regional growth projections to accommodate region-wide demand increases. These cumulative projects would be expected to fit within this long-term planning. Therefore, because the proposed USB project, by itself, would not result in a significant impact on utilities and because utility needs for the cumulative projects listed above would be addressed through long-term planning, the Proposed Project would not result in significant cumulative impacts in combination with other projects.

In addition, the proposed USB project is consistent with the LRDP and LRDP EIR, as amended, which addressed cumulative utilities/energy impacts associated with LBNL growth.

